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THE ELEMENTARY SCHOOL JOURNAL

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Educational News and Editorial Comment

THE WORLD FEDERATION OF EDUCATIONAL ASSOCIATIONS

During July there was held in Edinburgh, Scotland, the second meeting of the World Federation of Educational Associations. The program of promoting world-peace through the united efforts of the educators of all nations was the chief matter of discussion and action. The federation appointed several committees to carry on this program in the interval between this and the next meeting, which will be held in 1927. One of these committees will co-operate with the League of Nations in promoting international intellectual relations; another will stimulate the exchange of students and teachers between different countries.

A large representation of American teachers and school officers was in attendance at the meeting, and several were elected to offices in the federation. Augustus O. Thomas, state commissioner of education of Maine, was re-elected president. Charles H. Williams, of Missouri, was elected secretary pro tem. Walter R. Siders, of Idaho, and Mary C. C. Bradford, of Colorado, were made members of the board of directors.

THE ALL-YEAR SCHOOL

At a recent meeting of the Board of Education of Chicago, Superintendent William McAndrew presented a report in which he advocated the adoption of the all-year school. A part of his argument in favor of the proposed plan is as follows:

Chicago has a school plant valued at $120,000,000. This plant is in large part idle during the summer months. No industrial concern would voluntarily keep its plant idle for two months each year. Chicago began to use its school plant during the summer in a small way in 1903 by opening summer review and vacation centers in certain elementary schools. This work has been continued to the present time. For 1925 provision was made for opening fifteen elementary schools for these purposes. . . . .

Public schools are operated for the purpose of securing the largest educational output and opportunity within the limits of such cost as the community can afford. The system is not ideal. Pupils are grouped for mass instruction; the ability of the average pupil determines the rate of progress of the whole group. Pupils are advanced from semester to semester, more or less in lock step, with sixteen semiannual promotions for the child in normal progress through the eight years of the elementary school. Failure on the part of a pupil means dropping back one-half year. A bright pupil, to get ahead, must skip one-half year's work, which is often so serious a handicap that the pupil cannot do the work of the advanced grade.

If the schools are operated on an all-year basis, with the year divided into four quarters, the pupil who has failed in the work of the particular quarter goes back one-fourth year instead of one-half year as at present. A bright pupil may be moved up a quarter with much greater likelihood of being able to do the advanced work than where the skip involves a half-year's work.

Every real teacher is certain to remark some time in the opening weeks of school in September that her pupils seem to have forgotten during the summer everything they ever learned, as well as the ability to study, to carry on under the school régime.

After nine or ten months of faithful, conscientious, painstaking work, she sees her pupils leave school for the summer recess alert, mentally keen, morally alive, youth of whom she is rightfully proud and in whom she has great hopes; but these same boys and girls too often come back to her in September stunted physically, intellectually, and morally. It is not humanly possible for the adolescent to loaf, to run the streets for two or three months each year, without suffering a loss of knowledge and a breaking-down of habits of application.

The Board of Education of Chicago has stood out against interruptions of school work by extraneous interests. The summer recess is the most serious interruption the child encounters in school life. The only valid justification ever offered for closing schools in summer is the need for the help of the children on the farm. There exists no such need in urban centers.

There are thousands of parents in Chicago who are gravely concerned every June about what their sons and daughters will do during July and August, where and how they will play, what dangers they will meet. They worry about the effects of this long school recess on the physical, intellectual, and moral well-being of their children.

More serious to the community welfare, however, are the other thousands of parents who wilfully, carelessly, or through economic necessity dump the responsibility for their children's physical and intellectual development, and civic and moral development as well, almost entirely on the schools.

It is during the summer that children form habits of the gang, the hobo, or the loafer. More young people develop habits of idleness or step aside from accepted social behavior during the summer than in any other period of the year. The moral and civic guidance of the school is withdrawn at a period of the year when it is most needed. Under conditions of modern city life the moral and civic instruction of its youth should be continuous.

Some time ago the attention of the readers of the *Elementary School Journal* was called to the discussion of the all-year school which has been going on in Newark, New Jersey. Two years ago at a meeting of the Department of Superintendence, Superintendent David B. Corson of Newark read a paper condemning the all-year school on the basis of evidence which he had collected in the schools under his supervision. He also recommended to his board the termination of the experiment of conducting all-year schools which had been inaugurated by his predecessor, Superintendent A. B. Poland.

The Newark board voted to abandon the summer sessions and afterward rescinded its action because of pressure from the parents and because the unfavorable judgment of the superintendent was not shared by many of the teachers and principals who had participated in the experiment.

During June, 1925, Professor M. V. O'Shea, of the University of Wisconsin, and Dr. Wilson Farrand, headmaster of the Newark Academy, reviewed for the Newark board all the evidence bearing on the matter and concluded that any unfavorable showing for the summer sessions which seemed to be supported by the tests made of pupils was to be explained by the generally unfavorable economic and social conditions surrounding the schools. They recommended that the experiment be continued and that a thorough inquiry be carried on this autumn to determine the facts.

It is evident that schools, especially in cities, will shortly have to consider such matters as are emphasized in Superintendent McAndrew's report. It is to be hoped that evidence from cities other than Newark may soon be at hand to guide school executives.

CHILDREN'S BOOK WEEK

The National Association of Book Publishers, with offices at 25 West Thirty-third Street, New York City, issues printed material and posters which have been prepared for the purpose of promoting the observation of the week of November 8–14 as Children's Book Week. During this week schools and clubs are asked to co-operate in encouraging children to read and in stimulating communities and families to provide suitable books for children of all ages.

The National Association of Book Publishers issues the following list of materials which can be secured by anyone who is interested in co-operating in this enterprise.

Poster, designed by Jon Brubaker, "After all, there is nothing like A GOOD BOOK!" Printed in five colors. Free.

Card miniatures of Brubaker poster in color, $1.00 per 100.

Poster, designed by Jessie Willcox Smith, "More Books in the Home." Printed in four colors. Free.

Card miniatures of Smith poster in color, $0.75 per 100.

Motion-picture slide, either poster design, with imprint, $0.50.

"Club Program Suggestions for Book Week," a circular compiled by the General Federation of Women's Clubs, Division of Literature. Free.

"Book Projects," a circular compiled for schools by the National Congress of Parents and Teachers, Committee on Children's Reading. Free.

"Suggestions for Communities," a circular giving suggestions for organizing a successful book-week celebration. Free.

"Magazine Articles on Children's Reading," a list of recent articles. Free.

"Book Films," a selection made by the National Board of Review of Motion Pictures. Free.

THE BIBLE AND RELIGION IN THE PUBLIC SCHOOLS

There are frequent references in the newspapers of many states to the rulings of courts and the action of boards of education on the matter of religious teaching and the reading of the Bible in the public schools.

The following item appeared in the newspapers as emanating from Virginia, Minnesota.

Reading of the Bible in public schools does not infringe upon the constitutional rights of anyone, Judge Edward Freeman held in a decision here today.

Max Paplan sought an injunction to restrain the Independent School District of Virginia and the school board from permitting the Bible to be read in classes. The petition was denied. An appeal to the supreme court is anticipated.

The following item is from White Plains, New York.

Supreme Court Justice Albert H. F. Seeger, sitting here today, granted a permanent injunction restraining the school board of Mount Vernon from allowing children in the fifth and sixth grades of the public schools to take forty-five minutes from each school week for religious instruction.

Lawrence B. Stein, of Mount Vernon, a member of the Freethinkers Society of New York, brought the proceedings for the injunction, and Joseph Lewis, president of the society, said tonight that similar actions would be brought in other parts of the state where public-school hours have been devoted to religious training.

For the last three months the Mount Vernon board has allowed parents to take their children out of school for religious training for forty-five minutes each week. Mr. Stein charged that such action was unlawful, inasmuch as it violated the Constitution by joining church and state.

In his decision Justice Seeger said in part:

"The Education Law, Section 620, describes the instructions required in public schools. Religious instruction is not one of them. Consequently, it is unlawful and unauthorized for a board of education to substitute religious instruction in the schools for the instruction required.

"The courts of this state and other states have uniformly discountenanced attempts to join religious instruction with instruction prescribed for the public schools.

"If it is necessary or advisable that such instruction be given on school days, each day is long enough for such instruction without encroaching on school hours. The undesirable results of keeping children away from school were made obvious in wartime, when many youngsters were forced to be absent from their studies by the general conditions. There are only 180 school days in the year, however, and there should be plenty of time for religious instruction at home or in the Sunday schools."

The injunction also prevented the board of education from printing or distributing cards for parents to sign giving consent to the religious instruction of pupils. The court remarked that the church cards merely added more work to the teachers' duties.

Justice Seeger further pointed out the possible ill effects of the course the

Mount Vernon school board had taken with regard to religious instruction if it should be followed in rural districts or farming communities. In such districts, where churches, homes, and schools are widely separated, the children, Justice Seeger believed, would in all likelihood flock to the nearest church, regardless of the faith of their families. In Mount Vernon, he added, it was entirely possible that the children would play truant instead of going to their churches or other places of religious instruction.

The following item is from Delaware.

Professor Clarence B. Skinner of Tufts College, chairman of the Committee on Academic Freedom of the American Civil Liberties Union, said yesterday that his committee was seeking to bring into court a test case to determine the constitutionality of the Delaware law providing for compulsory Bible reading "without comment" in the public schools of that state. The law imposes a fine on any teacher who omits the Bible reading, according to Professor Skinner, who continued:

"Since it is customary to use the King James version of the Bible and the Protestant version of the Lord's Prayer in public schools, this law would make all religious teaching other than Protestant in the Delaware schools a serious misdemeanor. The law strikes so serious a blow at the religious freedom of teachers and pupils alike that we can well understand how any Catholic or Jewish parent in the state of Delaware would demand that this law be tested in the courts. It is equally probable that the law would be obnoxious to many teachers."

A pamphlet of twenty pages entitled, *List of Selections from the Standard American Version of the Bible for Daily Reading in the Public Schools*, is issued by the State Board of Education of Idaho and contains selected references under such headings as "Prose and Poetry," "Great Orations and Addresses," "Great Prayers," etc.

There is, in many quarters, an insistent demand for some form of religious teaching in the public schools of this country. On the other hand, careful students of European experience point out that the complications which arise when religion and public education are combined under the supervision of a single institution are of a character to warn America against abandoning the tradition of strict secularization of the public schools.

AN ANNOUNCEMENT OF THE CHILD STUDY ASSOCIATION OF AMERICA, INC.

A conference on parents and children, to which teachers will be asked to contribute, will be held at the Hotel Waldorf, New York

City, October 26–28, 1925, under the auspices of the Child Study Association of America, Inc., formerly the Federation for Child Study. The difficulties and problems of parents, the family as it exists today, the community surrounding the family, leisure and how to teach children its use, daydreams and personality traits of children, and other topics will be discussed. It is the belief of the association that parents will derive great benefit from the sessions. For further information address the Child Study Association of America, Inc., 242 West Seventy-sixth Street, New York City.

SALARY SCHEDULES PREPARED BY THE NATIONAL EDUCATION ASSOCIATION

The Research Division of the National Education Association has prepared a series of elaborate tables showing in detail the salary schedules of the leading school systems of the United States. The tables can be purchased for $5.00 a set from the National Education Association, 1201 Sixteenth Street, N.W., Washington, D.C. They are invaluable to school administrators and students of educational finance. In their preparation the Research Division has given new evidence of the value to public schools of this branch of the National Education Association.

THE TEACHER'S PLACE IN THE GOVERNMENTAL SYSTEM

A recent ruling of the Supreme Court of Nebraska makes an important contribution to the definition of a teacher's legal rights. The *New York Times* published the following report of the ruling.

The head of the department of English in a Nebraska state normal school was dismissed by a letter from the president of the state board of education without any action being taken by the board, according to the law, and his place was filled by another. The dismissed teacher sued to test the right of his successor to hold the place. In opposition to the suit it was contended that his action should be dismissed because his position was not an "office" within the meaning of the law.

In holding that the dismissed teacher held an "office" and had a right to bring the action in question, the Supreme Court of Nebraska said:

"The teacher has a special place by the nature of things in the governmental system, so far as it applies to education. He is appointed and paid by the state. His place—we may well say his 'office'—is created by the state, because only through him can its free education be transmitted. Nor is he a mere

conduit. Education cannot be poured out to people like water from a pitcher. It must be carried to them in such a way as to engage their interest and reach their understanding—a labor involving knowledge of methods, exercise of authority, and wide use of discretion. A teacher must prescribe courses, establish discipline, convince, lead. In the due performance of his duties he not only engages in a work of public concern but wields a portion of sovereign power."

The supreme court held that the proceeding brought by the teacher was the only one that would afford adequate relief. In holding that a teacher holds an "office," the court pointed out that a definition in a law dictionary of the term "office" is "a right to exercise a public or private employment and to take the fees and emoluments thereunto belonging, whether public, as those of magistrates, or private, as of bailiffs' receivers or the like."

"We think that the language of our statute extends the remedy of *quo warranto* to the appellant in this case."

A SUBSTITUTE FOR INSURANCE

Cincinnati has a permanent endowment fund for school fire insurance amounting to approximately $350,000. This has been growing since 1913, when the board of education began to carry its own fire insurance. Each year $25,000, approximately the amount that would have been paid for premiums for fire insurance, has been set aside to repair damage caused by fire. The school system has had few fire losses, and the fund, with interest added, has grown steadily. It is invested in Cincinnati school bonds, and the annual interest now amounts to about $20,000. The school budget for 1925 makes no provision, therefore, for fire insurance. Cincinnati's success is largely due to well-constructed school buildings, to the elimination, so far as possible, of fire hazards near school property, and to keeping fire-fighting apparatus always accessible in the schools.

MATHEMATICS FOR SUPERIOR ELEMENTARY-SCHOOL PUPILS

The *Educational Research Bulletin*, published by the Los Angeles school system, contains an account of an experiment which was tried in Los Angeles of reducing the amount of drill in arithmetic for elementary-school pupils of superior mental ability and introducing work in algebra much earlier than is usual. The portions of the article which describe the experiment and give the conclusions are as follows:

In the Los Angeles special rooms for children of superior mental ability groups of pupils were selected who should spend half of the usual time on arithmetic and half on algebra.

It appears from the experiment that superior pupils of the sixth, seventh, and eighth grades are able in two weekly periods of supervised study to acquire skill in algebra comparable to that acquired by ninth-grade pupils under ordinary circumstances. Further study is planned under conditions that will furnish a better control group.

METHODS OF DEALING WITH TEACHERS IN SERVICE

There are a great many ingenious administrative devices in operation in the various school systems of this country which are not generally adopted because the superintendent or principal who invented them does not write descriptions of what he does. In the medical profession there is a constant interchange of experience among practitioners through the technical journals. Why should not the members of the educational profession come to a recognition of their duty to record useful and successful devices for the benefit of others?

The *Elementary School Journal* plans to publish a series of discussions by practical school officers. It seeks from principals and superintendents answers to such questions as the following. What means can be adopted to train teachers in service? What are the best methods of reconstructing the curriculum? How should extra-curricular activities be organized and controlled? What equipment is necessary in elementary-school and high-school classrooms? What are the functions of boards of education? How should one prepare a school report? What ought to be done in the way of informing the community about school policies through the daily press? School officials are invited to contribute statements, short or long, on these or other topics which they regard as important. Some helpful suggestions drawn from practical experience along one of these lines are published herewith. They were contributed by Superintendent Theodore Saam, of Council Bluffs, Iowa. It is hoped that others will follow his example.

Allowance for summer-school work.—For years we have paid all tuition fees and railroad transportation one way for any and all teachers who attend summer school—minimum, $25; maximum, $75. The allowance is determined by the cost. The teacher is required to take only one subject that has a definite relation to her particular work. Any other courses for profit or pleasure may be pursued. She is always warned not to let academic subjects become a worry or a burden, as we expect her to have a happy, healthful summer of recreation. Summer

schools at some distance and of different environment are especially recommended. We have followed this plan for twelve years and expect to continue it.

Assisting teacher.—Last year I selected the best teacher in the school system to assist all new teachers in the primary grades for a semester. Her function was not to supervise the primary work; she did more than that. She actually taught any subjects for weak or new teachers until we felt that these teachers could proceed successfully without assistance.

Supervising teachers.—During a period of scarcity of teachers we employed two of our best elementary-school teachers to assist and train six inexperienced teachers, graduates of the high-school normal-training course. Each supervising teacher was responsible for the work in three classrooms, to each of which had been assigned one of the inexperienced teachers. We continued this plan for one year. The six teachers are now in the highest quarter of the whole elementary group.

AMERICAN GUARDIANSHIP OF SCHOOL CHILDREN

It may be wholesome for American school officers to read the criticism made by a European observer of our methods of protecting children from delinquency. There can be no doubt that the provisions for school attendance and for the care of pupils are much more loosely administered in the United States than they are in the other great civilized nations.

The criticism of our schools is contained in a report made by Dr. Shrubsall to the London County Council in 1924 and presented in the early part of August of this year to the Ninth International Prison Congress held in London.

Dr. Shrubsall's comments are summarized as follows in the London *Times Educational Supplement:*

> The work of the juvenile courts in America in recent years has become, however, generally more extensive, jurisdiction being permitted over offenders up to the age of eighteen and in some cases up to twenty-one. Specially organized courts for juveniles are available for 70 per cent of the population living in cities of 25,000 to 100,000 or over. But, as Dr. Shrubsall points out, although some of the data secured in American cities with regard to children are more "extensive and intensive" than is the case at present in London, these advantages are neutralized, apparently, by the less complete co-operation with the educational system. The reports from the schools appear to be inferior to those presented by the head teachers and care committees in London. Further, in all arrangements for institutional care, whether in the form of schools, institutions for the feeble-minded, or mental hospitals, "London is relatively better off, so that the admission of a child in really urgent need of such care can be more readily and swiftly secured."

America is faced, moreover, with the problem of insufficient school accommodations. The investigators who inquired into the juvenile-court work of the selected cities confirm this view, for they found that in many cases the number of attendance officers and the provision of special classes for difficult children were so inadequate as to make it impossible to do intensive work with the children needing attention. Further, there was great necessity for the "provision of the number of rooms and teachers necessary to eliminate the half-day attendance which has been occasioned by overcrowded conditions and which, in the opinion of some of the judges and probation officers interviewed, has contributed to delinquency by leaving the children too much free time."

GEOGRAPHIC NEWS BULLETIN

During the school year the National Geographic Society publishes a weekly bulletin made up of items which teachers of geography will find useful in enlivening their class work. The bulletins contain accounts of expeditions which are exploring various parts of the world, descriptions of unfrequented regions, stories of the doings of strange peoples, and other material not included in geographies or supplementary readers.

The following statement is issued by the National Geographic Society from its office in Washington, D.C.

The National Geographic Society requests teachers who plan to use the *Geographic News Bulletin* during the school year 1925–26 to send their applications early in September.

Prompt requests enable the Society to put names and addresses on the mailing list in time for teachers to receive all issues of the *Geographic News Bulletin* weekly from September to May.

The bulletins are one of the Society's contributions to education, and only teachers may receive them. The thirty issues during the school year are illustrated and give the geography of places and products. Applications for the *Geographic News Bulletin* should be accompanied by twenty-five cents to cover the cost of mailing.

STUDIES IN EDUCATION FROM THE FRANCIS W. PARKER SCHOOL

Volume VIII of the Studies in Education published by the experimental school established in Chicago in memory of Francis W. Parker bears the title, *Creative Effort*. It describes those activities of the school through which children are trained to express themselves in original and individual ways.

Examples are given of creative effort in writing, in eurythmics and melody, in the graphic arts, in shopwork, and in morning exercises.

The spirit of the book is expressed by the principal, Flora J. Cooke, in the following paragraph from the Preface.

We believe that a study of such material as we cite tends to make us realize that creative expression is fundamental to the child's fullest development, to his happiness and his spiritual growth. All normal children have the right to live in a rich environment, to exercise to the full all their powers of expression, and to have every avenue to their souls open and in use. Not everyone can contribute to the permanent beauty of the world, but it is the privilege of every school to create conditions which should arouse each child to express freely in some chosen form his own best ideas, inspirations, and emotions.

SPELLING AND GENERAL INTELLIGENCE

There is reported in *Public Personnel Studies*, a journal published by the Bureau of Public Personnel Administration of the Institute for Government Research, Washington, D.C., an investigation which deals with the relation of general intelligence to ability to spell. The investigation was carried on by Katharine T. Omwake. Data were secured for both elementary-school pupils and college students. Miss Omwake's summary of conclusions is as follows:

1. There is little relation between the abstract intelligence of college students and their ability to spell.
2. There is little relation between the abstract intelligence of pupils in the fifth grade, the sixth grade, or the seventh grade and their ability to spell.
3. In the eighth grade there is a quite marked relation between ability to spell and the scores made in educational-intelligence tests (though this conclusion may not be valid because it is based on only thirty-four cases).
4. In a group varying widely in abstract intelligence and spelling ability (for example, the combined fifth, sixth, and seventh grades) there is a very noticeable relation between abstract intelligence and ability to spell.
5. There is a positive relation between ability to spell and education as indicated by promotion through the grades.
6. An intelligent individual may be a very good speller, an average speller, or a very poor speller.
7. A given spelling score is made with approximately the same frequency, in a fairly homogeneous group, by intelligent, average, and unintelligent individuals.
8. It is impossible to predict an individual's ability to spell from his abstract intelligence.
9. It is impossible to predict an individual's abstract intelligence from his ability to spell.

A NEW BILL PROVIDING FOR A FEDERAL DEPARTMENT OF EDUCATION

CHARLES H. JUDD
University of Chicago

The National Education Association has launched a new campaign for the creation of a federal department of education. It has voted to sponsor a bill which embodies the carefully formulated judgments of a wide circle of practical educators and students of American educational history and policy. The new bill will undoubtedly receive support from the great majority of the school people of the United States, and it seems to have prospects of influential support in Congress. The outlook for favorable action is promising.

It is highly important that all who are directly interested in public education should be thoroughly acquainted with the provisions of this bill. It is accordingly here reproduced in full.

In order to bring out the meaning of the bill, the following comments may be made by way of preface to the full text.

The bill transfers to the new department two federal agencies which are charged with duties relating to the public schools, namely, the Bureau of Education of the Department of the Interior and the Federal Board for Vocational Education. It does not withdraw from the Department of Agriculture or from the Department of Labor any of those bureaus or divisions which have to do with schools.

The bill is ingenious in suggesting an interdepartmental conference, which will be able to carry on the work inaugurated by a similar body created by executive order during the administration of President Harding. The purpose of this conference is to co-ordinate the educational activities in all branches of the federal government without attempting to dictate to any of the departments.

The bill leaves unchanged the responsibilities and powers of the Federal Board for Vocational Education, merely transferring them to the new department. This is a concession to the existing situation. In every paragraph of the bill other than that dealing with

vocational education the new department is conceived to be a department of investigation and guidance, not a department with authority over school officers. There is a certain political inconsistency in transferring to such a department a board which has the large powers of control possessed by the Federal Board for Vocational Education.

The bill provides adequate support for the work of the department, increasing by more than fivefold the resources which are now available for educational investigations and publications on the part of the federal government.

The bill omits all reference to the federal subsidies which, at the time of the first draft, were thought by some to be essential to the maintenance of the American public schools. It abandons the advisory council, provision for which was inserted in the bill of two years ago in order to provide more complete contact of the department with school officers and the people of the various states. These omissions go far toward removing the objections which were raised against the old bill.

It is suggested to superintendents and principals that the bill be brought to the attention of parent-teacher associations, that it be made a subject of discussion at teachers' meetings, and that the older pupils, especially those who are studying civics, be made acquainted with its purposes and details.

School people should understand that it is not a light matter for Congress to add a new department to the already complex machinery of the federal government. There are vital interests other than education which have urged that they be recognized by the creation of departments. Public health and the fine arts have in recent years presented their claims with vigor and persistence. Antipathy of a violent type has been generated in many quarters against any steps which seem to threaten federal interference with local autonomy.

If this new bill is to secure recognition, there must be widespread and intelligent public opinion in its favor. Congress will not be influenced by hasty indorsements on the part of uninformed organizations, however numerous they may be. School people should therefore study the bill, discuss it, bring it to the attention of civic bodies of all kinds, and help to contribute to the development of the effec-

tive popular support which a project of this sort deserves and can secure only through informing discussions.

The full text of the proposed bill is as follows:

A PROPOSAL FOR A BILL TO CREATE A DEPARTMENT OF EDUCATION AND FOR OTHER PURPOSES

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That there is established at the seat of Government an executive department to be known as the Department of Education, which shall be under the control and direction of a Secretary of Education to be appointed by the President, by and with the advice and consent of the Senate. Section 158 of the Revised Statutes is amended to include the Department of Education, and the provisions of Title IV of the Revised Statutes, including all amendments thereto, shall be applicable to the Department. The Secretary of Education shall cause a seal of office to be made for the Department of Education of such device as the President shall approve, and judicial notice shall be taken thereof.

SEC. 2. There shall be in the Department of Education an Assistant Secretary of Education, to be appointed by the President and to receive a salary of $10,000 per annum. The Assistant Secretary shall perform such duties as may be prescribed by the Secretary of Education or required by law. There shall also be a solicitor, a chief clerk, and a disbursing clerk, and such chiefs of bureaus and such scientific, technical, and clerical assistants as may be necessary to carry out the provisions of this Act and as may be provided for by Congress from time to time.

SEC. 3. (*a*) The Bureau of Education and all pertaining thereto is transferred from the Department of the Interior to the Department of Education.

b) The office of Commissioner of Education is abolished, and the authority, powers, and duties heretofore conferred and imposed by law upon the Commissioner of Education shall be exercised and performed by the Secretary of Education.

c) The Federal Board for Vocational Education is transferred to the Department of Education, and all the authority, powers, and duties heretofore conferred or imposed by law upon the Federal Board for Vocational Education shall be exercised and performed by the Board as a division of the Department of Education. The Secretary of Education shall be a member of the Federal Board for Vocational Education and ex officio chairman of said Board.

d) The authority, powers, and duties conferred and imposed by law upon the Secretary of the Interior with relation to the Columbia Institution for the Deaf and Howard University shall be exercised and performed by the Secretary of Education. The Assistant Secretary of Education shall be ex officio a director of the Columbia Institution for the Deaf, in addition to the directors whose appointment has heretofore been provided by law.

SEC. 4 (*a*) Except as otherwise provided by this Act, all authority, powers, and duties held, exercised, and performed by the head of any executive department in and over any bureau, office, or branch of the Government which is by this Act transferred to the Department of Education, or which is abolished by this Act and its authority, powers, and duties transferred to the Department of Education, or in and over any business arising therefrom or pertaining thereto, or in relation to the duties performed by and authority conferred by law upon such bureau, office, or branch of the Government, whether of an appellate or revisory character or otherwise, shall be vested in and exercised and performed by the Secretary of Education.

b) All orders, rules, regulations, and permits or other privileges which have been issued or granted by any bureau, office, or branch of the Government which is transferred under the provisions of this Act to the Department of Education, or which is abolished and its authority, powers, and duties transferred to the Department of Education, and which are in effect at the time of the transfer, shall, after the transfer, so far as they are not in conflict with the provisions of this Act, continue in effect to the same extent as if the transfer had not occurred, until modified, superseded, or repealed by the Secretary of Education.

SEC. 5. All officers, clerks, and employees employed in or by any office, bureau, or branch of the Government transferred in accordance with the provisions of this Act to the Department of Education are each and all transferred to the Department of Education without change in classification or compensation; and the office records and papers on file pertaining exclusively to the business of any such office, bureau, or branch of the Government so transferred, together with the furniture and equipment thereof, are transferred to the Department of Education.

SEC. 6. The Secretary of Education shall have charge, in the buildings and premises occupied by or assigned to the Department of Education, of the library, furniture, fixtures, records, and other property pertaining to the Department or hereafter acquired for use in its business. Until other quarters are provided, the Department of Education may occupy the buildings and premises occupied by the bureaus, offices, and branches of the Government which are by this Act transferred to or included in the Department of Education.

SEC. 7. In order to co-ordinate the educational activities carried on by the several executive departments and to devise ways and means of improving the educational work of the Federal Government, there is hereby created the Federal Conference on Education, which shall consist of one representative and one alternate appointed by the head of each department. The Federal Conference on Education shall not report as a body to any one department, but each representative shall report the findings of the Federal Conference on Education to his own department for consideration and independent action.

SEC. 8. (*a*) The Department of Education shall collect such statistics and facts as shall show the condition and progress of education in the several States and in foreign countries. In order to aid the people of the several States in establishing and maintaining more efficient schools and school systems, in de-

vising better methods of organization, administration, and financing of education, in developing better types of school buildings and in providing for their use, in improving methods of teaching, and in developing more adequate curricula and courses of study, research shall be undertaken in (1) rural education, (2) elementary education, (3) secondary education, (4) higher education, (5) professional education, (6) physical education, including health education and recreation, (7) the training of teachers, (8) immigrant education, (9) adult education, and (10) such other fields as in the judgment of the Secretary of Education may require attention and study.

b) The Department shall make available to educational officers in the several States and to other persons interested in education the results of the research and investigations conducted by it, and the funds appropriated for printing and binding for the Department of Education shall be available for the printing and binding of the results of such research and investigations.

SEC. 9. For the fiscal year ending June 30, 1926, and annually thereafter, the sum of $1,500,000 or so much thereof as may be necessary is hereby authorized to be appropriated, out of any money in the Treasury not otherwise appropriated, to the Department of Education for the purpose of paying salaries and conducting studies and investigations, the paying of incidental and traveling expenses incurred in connection with the investigations or inquiries undertaken by the Department and law books, books of reference, and periodicals, and the paying of rent where necessary, and for such other purposes as may be necessary to enable the Department of Education to carry out the provisions of this Act. All unexpended appropriations which shall be available at the time when this Act takes effect in relation to the various bureaus, offices, and branches of the Government which are by this Act transferred to or included in the Department of Education, or which are abolished by this Act and their authority, powers, and duties transferred to the Department of Education, shall become available for expenditure by the Department of Education and shall be treated the same as if such bureaus, offices, and branches of the Government had been directly named in the laws making the appropriations as part of the Department of Education.

SEC. 10. The Secretary of Education shall annually, at the close of each fiscal year, make a report in writing to Congress, giving an account of all moneys received and disbursed by the Department of Education and describing the work done by the Department, and shall at the same time make such recommendations to Congress as will, in his judgment, improve public education in the United States. He shall also from time to time make such special investigations and reports as may be required of him by the President or by either House of Congress or as he himself may deem necessary and urgent.

SEC. 11. This Act shall take effect thirty days after its passage, except that the provisions of this Act in relation to the transfer of any agency from the jurisdiction and control of one officer to the jurisdiction and control of another, or in relation to the transfer of authority, powers, and duties from one officer or agency to another, shall take effect July 1, 1926.

THE ADJUSTMENT OF THE DUTIES OF THE SUPERVISOR TO THOSE OF THE PRINCIPAL

THOMAS W. GOSLING
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In cities where there are strained relations between the supervisors and the principals, the situation usually may be relieved by a clear definition of the functions of each group. Wherever there is doubt about the field of activity of any executive or wherever there is overlapping of authority, there are likely to be frequent occasions for misunderstanding and frequent conflicts of will.

In a well-organized school system the principal is the direct representative of the superintendent in his school; he has full charge of the school and is responsible to the superintendent for his official conduct. The principal occupies a commanding position in the school system. He is the field officer directly responsible for the educational campaign in his district.

Supervisors, on the other hand, are the special advisers of the superintendent in matters of policy relating to their departments. They are the experts to whom the superintendent must look for assistance in making decisions with regard to matters on which he needs technical and professional advice.

The superintendent may assign supervisors to specific tasks in the various school buildings of the city. When a supervisor enters a school building, he comes within the jurisdiction of the principal of the school and should not undertake to make any radical changes or to introduce any policies without the knowledge and consent of the principal. It is only by an arrangement of this kind that a conflict of authority can be avoided.

Just as the supervisor is the technical adviser of the superintendent, so should he be the technical adviser of the principal. Both superintendent and principal will do well to lean heavily on their technical advisers. As the superintendent may disregard the supervisor's advice because he is convinced that there is a better way to

proceed than the one suggested, so may the principal disregard the advice of the supervisor. It should be clearly understood, however, that when the principal fails to accept the advice of the supervisor on those matters in which the supervisor is acting on the instruction of the superintendent, the obligation rests on the principal to explain his procedure and to show that his own way is the better. At this point the success of the school system will depend on the ability of the superintendent to make wise decisions based on good judgment, not on rule, for in the higher realms of administration decisions cannot be made on the basis of abstract rules. There must be present always a sense of justice, of discrimination, and of the inherent difficulties that arise in all human relationships.

Some concrete examples will illustrate the working of the method of organization just defined. A supervisor of home economics who observes that a principal has assigned to a teacher in her department a larger number of pupils than can be cared for properly is not authorized to demand that the principal make a change; it is the duty of the supervisor, however, to bring the matter to the attention of the principal and to seek an adjustment. If the principal does not act immediately, the supervisor will misconceive her function if she makes the matter an occasion for report to the superintendent. Here the supervisor must assume that the principal is doing the best he can and that if he does not make the change she requests, his decision is based on necessity, not on caprice. On the other hand, if a principal persistently fails to accept the advice of the supervisor, the supervisor's usefulness in the school where that principal presides is at an end. At this point an adjustment by the superintendent becomes necessary.

Principals need to recognize the fact that supervisors are on the staff of the superintendent for the specific purpose of fostering the work of their departments. If the superintendent did not wish to have a particular kind of work fostered, he would endeavor to curtail the activities of the supervisor or to dispense with the services of the supervisor altogether. If the superintendent fails to make this situation clear both to principals and supervisors, any friction that may result is chargeable to the superintendent himself.

The assignment of teachers is a function of the superintendent.

He may delegate this authority to a member of the staff; consequently, it is possible in any particular school organization for supervisors of special subjects to assign, transfer, and promote teachers in their departments in their capacity as agents of the superintendent. The superintendent and those of his agents who work in the whole system have a broader knowledge of the total needs of the school system than the principal of a single building can have. Out of this knowledge grows the right to assign, transfer, and promote. Principals who do not accept this situation in the right spirit are chargeable with responsibility for friction if it occurs.

Another concrete situation which frequently calls for adjustment relates to requisitions for supplies. Effective organization will place requisitioning power in the hands of the principal. This right arises from the responsibility of the principal for the proper maintenance of the work of his school. Here again, however, the principal will be wise to proceed at the suggestion of his technical advisers and with their help. When he fails to do this, he again assumes responsibility for any difficulties that may arise. Some principals who do not view with favor the work of certain departments would have it in their power to starve those departments were it not for the right of the supervisors to advise first with the principal and later with the superintendent, as the occasion demands.

Good administration involves unity of executive functions. Two persons cannot drive the same team of horses at the same time and expect to drive well. A school is a unity in which the teachers have various functions to perform and in which they look for guidance and assistance to the supervisors who come from the superintendent's office. This situation, however, does not involve independent entities within the school; all the units are parts of one body, of which the principal, representing the superintendent, is the head. Any attempt on the part of the supervisor to impose his personality and his authority between the principal and the members of his department is destructive of good organization and of good administration.

A summary of this discussion shows the ten following essential items: (1) The principal is the responsible executive head of his school. (2) The principal is the representative of the superintendent

in the school to which he is assigned. (3) Supervisors are the technical advisers of both superintendent and principals. (4) Supervisors have no authority to regulate the administration in a particular school building. (5) Principals have no authority to thwart the general policies of the school administration. (6) Supervisory functions must not be confused with administrative functions. (7) Supervisors assume administrative functions only on direct assignment from the superintendent. (8) Each school is a unity with only one executive head responsible to the superintendent. (9) Where rules are inadequate, good sense and a spirit of accommodation must supply the deficiency. (10) Where all other means fail, the superintendent must be the arbiter; in these cases the decisions should be based on the best interests of the children of the schools, not on personal considerations.

STATE EDUCATIONAL POLICY AND THE SUPREME COURT OF THE UNITED STATES

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Education in America had its origin very largely in private and religious effort. It was well into the nineteenth century before it was commonly recognized that the state should provide educational opportunities for all, and it was much later, of course, before public opinion was ready to demand compulsory attendance. The result has been a state school system on the one hand and a large number of more or less independent private schools on the other. Since the world-war, however, there has grown up in many quarters the feeling that the state should exercise a more definite control over private schools. This feeling is due in part, perhaps, to the new responsibilities which the state has assumed with regard to the education of its youth. Whatever the cause of the changed attitude, it seems clear that the relation of the state to private education is going to be redefined.

If we may assume, as we do, that the American people are going to exercise a greater control over private schools in the future than they have exercised in the past, the question naturally arises as to how far a state may go in directing the education of its children. Considerable light is thrown on this question by a recent decision of the Supreme Court of the United States. Acting under the initiative provision of the state constitution, the people of Oregon enacted a law[1] in 1922 which made it a misdemeanor on the part of persons having control of children between the ages of eight and sixteen not to send such children to a public school while schools of this class were in session in the district.[2] Obviously, the practical effect of this

[1] *Laws of Oregon* (1923), p. 9.

[2] The law exempted from its operation the following classes of children: subnormal children, those who had completed the eighth grade, those who lived at considerable distances from a public school, and those who had been granted special permits by a county superintendent of schools.

law would be to prohibit private elementary schools. Two private institutions tested the constitutionality of the act before the Supreme Court of the United States, which rendered its opinion June 1, 1925.[1] The act was held unconstitutional on the ground that it violated that provision of the Fourteenth Amendment which declares that "no state . . . . shall deprive any person of life, liberty, or property without due process of law." In the opinion of the court, the challenged legislation "unreasonably interferes with the liberty of parents and guardians to direct the upbringing and education of children under their control. . . . . The fundamental theory of liberty upon which all governments in this Union repose excludes any general power of the state to standardize its children by forcing them to accept instruction from public teachers only. The child is not the mere creature of the state; those who nurture him and direct his destiny have the right, coupled with the high duty, to recognize and prepare him for additional obligations." The court held, moreover, that if the act under consideration were enforced, the two corporations concerned would be deprived of property without due process of law. The maintenance of private schools, it was pointed out, is an undertaking not inherently harmful, and the court found nothing in the records of such institutions to indicate that they had failed to discharge their obligations to their students, to their patrons, or to the state.

The court was careful to make it clear that the case in no way involved "the power of the state reasonably to regulate all schools, to inspect, supervise, and examine them, their teachers and pupils." It should be kept in mind that the only issue involved was the power of a state to abolish private elementary schools. There is not the slightest intimation that the court would not permit the states a large exercise of authority of a regulatory character.

This case is significant in that it clearly defines a limit beyond which a state may not go in its relation to private schools. It is also significant in that it suggests the more vital issue of the right of a state to formulate and execute its own educational policies.

During and immediately following the world-war a number of

[1] *Pierce* v. *Society of the Sisters of the Holy Name of Jesus and Mary, Pierce* v. *Hill Military Academy*, 45 Supreme Court Reporter, 571.

states passed legislation prohibiting the teaching of German—in some cases the teaching of all foreign languages—to children who had not completed the eighth grade. The authority of a state thus to exercise the police power was promptly challenged. In an elaborate opinion[1] the Supreme Court of Nebraska sustained the constitutionality of an act which prohibited the teaching of all foreign languages to children who had not completed the eighth grade. In reaching its conclusion with regard to the legitimate exercise of the police power by the state of Nebraska, the court was influenced by conditions disclosed by the war. The selective-draft law, it was pointed out, revealed a condition in the body politic the evil consequences of which had not been fully comprehended. Thousands of men born of foreign-language-speaking parents and educated in schools taught in a foreign language "were unable to read, write, or speak the language of their country, or understand words of command given in English." It was also demonstrated that there were local foci of alien-enemy sentiment and that in those communities in which this sentiment was the strongest the instruction in the private and parochial schools had been given chiefly in a foreign language. Since the social and national integrity was threatened, the court was of the opinion that the challenged act was a reasonable exercise of the police power of the state.

An appeal was taken from the Nebraska court to the Supreme Court of the United States. The fundamental issue involved, of course, was whether the act prohibiting the teaching of foreign languages deprived any person of liberty or property without due process of law. In the opinion written by Mr. Justice McReynolds, who was also the author of the opinion in the Oregon case, it was pointed out that the court had never attempted to define with exactness the liberty guaranteed by the Fourteenth Amendment, although some of the included things had been definitely stated.[2] Liberty does not denote mere freedom from bodily restraint but includes as well "the right of the individual to contract, to engage in any of the common occupations of life, to acquire useful knowledge,

[1] *Nebraska District of Evangelical Lutheran Synod of Missouri et al.* v. *McKelvie* 175 N.W. 531, 7 A.L.R. 1688.

[2] *Meyer* v. *State of Nebraska*, 262 U.S. 390.

to marry, establish a home, and bring up children, to worship God according to the dictates of his own conscience, and, generally, to enjoy those privileges long recognized at common law as essential to the orderly pursuit of happiness by free men. . . . . The established doctrine is that this liberty may not be interfered with, under the guise of protecting the public interest, by legislative action which is arbitrary or without reasonable relation to some purpose within the competency of the state to effect. *Determination by the legislature of what constitutes proper exercise of the police power is not final or conclusive, but is subject to supervision by the courts.*"[1]

Having stated categorically that it is the function of the Supreme Court of the United States rather than of the legislature of Nebraska to pass final judgment as to the existence of facts justifying the exercise of police power, the opinion proceeds to point out that though "the state may do much, go very far, indeed, in order to improve the quality of its citizens physically, mentally, and morally," it cannot deprive modern-language teachers of their lawful calling nor unreasonably interfere with the power of parents to control the education of their children. The statute was therefore declared to be "arbitrary and without reasonable relation to any end within the competency of the state" to effect.

The significance of the Nebraska case will be more fully appreciated when it is recalled that ten other states had in force substantially the same kind of legislation as had Nebraska and that two other state supreme courts[2] had upheld the constitutionality of such legislation. In a single decision, therefore, the Supreme Court of the United States reversed an important educational policy of approximately one-fourth of the states of the Union. It is not intended here, of course, to pass judgment on the merits or demerits of the legislation involved. Attention is merely called to the power which the Supreme Court may exercise in controlling educational policy.

It is not the purpose of this article to review all the cases that have come before the Supreme Court of the United States involving the power of the states to formulate and execute their educational

[1] Italics not in original.

[2] The Supreme Court of Iowa in the case of *State* v. *Bartels*, 181 N.W. 508, and the Supreme Court of Ohio in the case of *Pohl* v. *State*, 132 N.E. 20.

policies. One other significant case, however, should be mentioned. In 1914 the state of Washington adopted as an initiative measure an act which prohibited employment agencies from receiving fees for services rendered in securing employment for patrons. While it was the purpose of the law to protect industrial workers from "imposition and extortion," the law was obviously so worded as to apply to teachers' agencies. In the court's opinion[1] there is nothing inherently immoral or socially dangerous in acting as the paid agent of another in securing for him a position in which he may earn a living. The law was regarded, therefore, as "arbitrary and oppressive" in that it prohibited the pursuit of a lawful business.

The cases discussed thus far should serve to point out the power of the Supreme Court of the United States under our constitutional system to control state educational policy. This power is derived mainly from the following provision of the Fourteenth Amendment:

> No state shall make or enforce any law which shall abridge the privileges or immunities of citizens of the United States; nor shall any state deprive any person of life, liberty, or property without due process of law; nor deny to any person within its jurisdiction the equal protection of the laws.

Under the authority conferred by this amendment, as today interpreted, there is scarcely any important police legislation that may not be reviewed by the Supreme Court. Laws passed by the states to protect the life, health, and general welfare of their citizens may be set aside as arbitrary and unreasonable by five of the nine judges sitting in Washington. Since the terms "liberty" and "property" are so comprehensive, all manner of social and economic legislation may be invalidated. As shown by the foregoing discussion, educational legislation is no exception to the general rule.

The Supreme Court has not always exercised such authority. Prior to the Civil War the states were practically unrestricted in the exercise of the police power except in two particulars: (1) they were prohibited from passing any laws impairing the obligations of contracts; (2) they were restricted in the regulation of foreign and interstate commerce. The Fourteenth Amendment made possible, therefore, a thoroughgoing revolution in our constitutional system. Although at the time of the adoption of the amendment there were

[1] *Adams* v. *Tanner*, 244 U.S. 590.

those who saw and pointed out the implications of the "due-process-of-law" clause, in the minds of most people, no doubt, the chief purpose of the amendment was to restrict the southern states in their relations to the freedmen and to empower Congress to pass such legislation as would secure to the Negro his proper status as a citizen of the United States.

Soon after its adoption the Fourteenth Amendment came before the Supreme Court for interpretation in the well-known Slaughter-House Cases.[1] The issue involved was the authority of the state of Louisiana to place restrictions on the slaughtering of animals in New Orleans and certain other parishes. The court refused to interfere, holding that the federal system had come out of the Civil War with its fundamental features unchanged. Justice Miller, speaking for the court, expressed impatience with any interpretation of the amendment which "would constitute this court a perpetual censor upon all legislation of the states." In 1876 the position of the court was still more strongly stated in the case of *Munn* v. *Illinois*.[2] In discussing the constitutionality of a law fixing the maximum charge for the storage of grain, the court made the following significant pronouncements: "Of the propriety of legislative interference within the scope of legislative power, the legislature is the exclusive judge." "For protection against abuses by legislatures the people must resort to the polls." These and other cases indicate clearly that the Supreme Court began its interpretation of the Fourteenth Amendment by announcing the doctrine of non-interference with the social and economic legislation of the states.

The position thus taken was maintained for a number of years. Gradually, however, the position was completely reversed. This facing about by the court may be explained, perhaps, by the fact that in the decade from 1875 to 1885 five new justices were appointed to the Supreme Court bench. Moreover, there was going forward an unprecedented development of industry and so-called "big business," which state legislatures attempted to control through regulatory measures. There was thus brought to bear on the court a great deal of pressure to give the Fourteenth Amendment a broader interpretation. For the Supreme Court of the United States to assert its

[1] 16 Wall. 36. [2] 94 U.S. 113.

right to review the social and economic legislation of the states constituted a momentous revolution in our constitutional system, for it profoundly disturbed the federal balance. Yet, that is precisely what took place, beginning about 1890 and being fully consummated by 1900.[1]

When once the Supreme Court had taken the position that in all social and economic legislation the judiciary and not the legislature is the final tribunal of arbitrament, there began what has been termed a period of "judicial ruthlessness." The court seemed to have forgotten the time-honored doctrine that a law is presumed to be constitutional until proved otherwise beyond a reasonable doubt. In passing on the constitutionality of state legislation, judges did not deem it necessary to inquire into the conditions which the legislation aimed to correct. Social and economic facts were almost completely ignored in the process of judicial interpretation. The constitutionality of a law was regarded as purely a legal matter, to be decided on the basis of abstract legal concepts.

This legalistic conception of the Fourteenth Amendment dominated the judicial mind until about 1908. In that year there came before the Supreme Court of the United States the Oregon ten-hour law for women. In this celebrated case[2] L. D. Brandeis and Pauline D. Goldmark submitted to the court a mass of data bearing on the physiological and social reasons why the law should protect women from long hours of labor. Said the court in its decision, "When a question of fact is debated and debatable, and the extent to which a special constitutional limitation goes is affected by the truth in respect to that fact, a widespread and long-continued belief concerning it is worthy of consideration. We take judicial cognizance of general knowledge."

After this decision the Supreme Court began to interpret legislation not so much in terms of abstract legal concepts as in terms of economic and social facts. In other words, the court functioned as economic and social experts. Legislation which seemed necessary to

[1] For a more complete discussion of the cases by which the court made the transition, see "The Supreme Court and the Fourteenth Amendment," by E. S. Corwin, 7 Mich. Law Rev. 643, and "The Social and Economic Interpretation of the Fourteenth Amendment," by R. E. Cushman, 20 Mich. Law Rev. 737.

[2] *Muller* v. *Oregon*, 208 U.S. 412.

protect the public welfare was sustained; otherwise it was declared unreasonable and arbitrary. Such seems to be the position which the court takes today.

Whether the Supreme Court is vested with too great power is a question on which people sharply disagree. Many see in this institution a bulwark against radical and reactionary legislation. Others regard it as a citadel of conservatism and vested interests. However that may be, it cannot be denied that within recent years the court has been subjected to a great deal of popular criticism. Many feel that the federal balance in our constitutional system has been too greatly disturbed. The whole drift of our administrative law has been toward centralization. There are, of course, certain matters which are fundamentally national in their scope. There are, on the other hand, certain matters which are essentially local in their character. It seems to the writer that education is one of these. Moreover, state educational policy is, as a rule, not a matter of law; in many instances—perhaps most—it is not even a matter of fact. It is frequently a matter of opinion. The people of a state may be able, in the long run, to recognize a fact as well as the judges of the Supreme Court, and their opinion, in so far as it affects themselves, may be of greater value than the opinion of the Supreme Court justices.

As pointed out previously in this discussion, the Supreme Court formerly interpreted legislation in terms of abstract legal concepts. Later it attempted to discover social and economic facts and to make these the basis of interpretation. In reality, neither of these constitute a satisfactory standard of judgment. Until the science of government is further developed than it is at present, the great body of state legislation must of necessity be based on opinion and not on scientifically demonstrated fact. Where the matter is one of opinion, the opinion of the legislature should be respected except in the rarest instances.

From time to time the proposal is made to amend the Constitution in such a manner as to establish more nearly the federal balance which characterized our earlier constitutional system. Whether such an amendment will ever be adopted is, of course, a matter of conjecture. In the meantime, state educational policy in many particulars is committed to the keeping of the judicial conscience.

ASSEMBLIES FOR THE ELEMENTARY SCHOOL[1]

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Much information of value to teachers and principals of elementary schools with regard to assemblies was brought to light as a result of the application of the group method of studying educational problems. Each person in the group took it upon himself to study thoroughly a part of the problem—"Assemblies for the Elementary School"—and to submit the results of his findings and of his experience to the group for analysis, discussion, and refinement. As a result, a considerable body of data on this little-studied question was derived. The data are here submitted with the hope that they will prove helpful to the profession.

The school assembly is a natural outgrowth of school activities, and its development will depend in a large measure on the recognition by its sponsors of certain aims which it ought to attain, on the types of assemblies employed, and on their organization and administration. In submitting its composite judgment on the question, the group states that no hard and fast standards can be set up, since this material is the result of the contributions of active teachers and school officers from many school systems and from widely separated parts of the country. Rather should the suggestions made herein be intelligently adjusted to meet the needs and practices of the schools of any given community.

The elementary-school assembly should always have in view three distinct aims:

1. Social
   - *a*) To share information of interest to the pupils
   - *b*) To build up habits, emotions, and attitudes and to give social value to information and artistic expression
   - *c*) To teach co-operation, initiative, and the assumption of responsibility

[1] This study was made by a group of teachers, supervisors, and principals as a part of the required work in a course entitled, "The Administration of Elementary Schools," given in the Harvard Summer School of 1924 by Herbert D. Bixby, assistant superintendent of schools, Cleveland, Ohio.

d) To bring about the co-operation with the school of all the agencies of the community

2. Cultural
   a) To stimulate clear thinking and clear expression
   b) To give entertainments of artistic and cultural value
   c) To eliminate self-consciousness
   d) To develop critical power
3. Informational
   a) To transact school business; that is, to develop school spirit or morale and apply it to the pupils' problems as they affect the work of the whole school or any of the classrooms
   b) To acquire certain useful knowledge concerning
      (1) Safety
      (2) Health
      (3) Matters of current interest

To make possible the attainment of such aims, there must obviously be assemblies of widely varying types. For example, emphasis should fall one day on the appreciation of music, another day on health habits, and so on. At no time should we lose sight of the important fact, now too often overlooked, that children between the ages of eight and fourteen should have plenty of opportunities to *enjoy* the good things which a well-conducted and well-ordered assembly can give them without having patent lessons hurled at them by the participants.

The following types of assemblies should not only afford conscientious teachers occasions to teach needed lessons in health, patriotism, music appreciation, and school citizenship but also permit the pupils really to enjoy the numbers on the programs. These types are not listed in the order of importance; such listing would naturally vary according to the interests and educational policies of those in charge of the assembly programs.

TYPES OF ELEMENTARY-SCHOOL ASSEMBLIES

1. By grades
2. By subjects[1]
3. Patriotic
4. Fine arts
5. Food

[1] This refers to the academic subjects particularly, such as English (dramas and pageants) and history. The special subjects are included in the list.

6. Music
7. Science
8. Health
9. Current interest
10. Public events
11. Outside speakers or organizations

Since the period of experimentation with the assembly is past, it is clear that the mere presentation of memorized poems, declamations, or set speeches by the pupils can never give the tone and atmosphere to the assemblies which modern education demands. The qualities named below were considered as the minima necessary for successful programs.

1. They must be of general interest.
2. They must show thorough preparation and be of high standard.
3. They should be broad in scope and performance and have plenty of variety.
4. No program should be too long or involved.
5. Whenever possible, they should be the outgrowth of the regular class work.
6. They should be well disciplined but freer than the classroom sessions. (By "freer" is meant within the bounds of good social usage and good breeding.)

There was much difference of opinion among members of the group concerning the best method of organizing and presenting assembly programs. In education today there is no one *best* way of doing a thing. So much of the personality, originality, and teaching or directing technique of individual teachers controls the situations with which they are confronted that successful methods in one school simply fail to operate in another. The following outline of organization and administration is offered, however; it may be easily altered to meet local conditions.

The control should be in the hands of a committee of both teachers and pupils, who will collect suitable material, assign programs to particular grades, and aid in their presentation.

1. The committee should be composed of not more than four or five teachers and one child from each classroom, elected by the pupils.
2. The committee should serve a quarter of a school year.
3. There should be one assembly a week not exceeding forty minutes in length.
4. The time preferred for the assembly is the latter part of Friday afternoon.

5. The presentation of the program should be in the hands of the pupils, with the teachers in the background, so far as compatible with the smooth conduct of the assembly.

6. The assembly should open with some form of patriotic or religious exercise.

A series of programs which have already been given in the schools of the members of the group and which have been received with both pleasure and profit by the pupils is offered so that this study may be practically helpful. The programs are for the first six months of the school year. Their adaptation and the costuming and coaching must depend wholly on the location of the school and the type of children as well as on the number of grades constituting the elementary school. While the group had in mind particularly Grades IV, V, and VI, there are still many schools which comprise Grades IV to VIII. What has been said applies to these schools; the older the pupils, the more extensive and finished the assembly can become.

September

First week.—A short talk by the principal concerning the school year just beginning and the making of such announcements as may be necessary (5 minutes). Musical competition, each class to sing one number from their song book (35 minutes).

Second week.—A surprise program, competitive. The fifth grade responsible for the entire program. Two sections—one for work by the girls and one for work by the boys.

Third week.—Fourth grade responsible. Dramatization of a story in their reader.

Fourth week.—Sixth grade responsible. Demonstration of work by boy scouts and girl scouts or camp-fire girls—two equal periods.

October

First week.—Health. A speaker from the Anti-Tuberculosis League, with posters and charts.

Second week.—Columbus Day celebrated, preferably by dramatization.

Third week.—Singing, with the music supervisor in charge. A talk by the principal.

Fourth week.—Celebration of Roosevelt's birthday, October 27.

November

First week.—Dramatization of the Pilgrims in England and their dissatisfaction with the church.

Second week.—The Pilgrims in Holland. The fear that their children might adopt Dutch customs.

Third week.—The Pilgrims in New England. The hardships they endured.

Fourth week.—The Pilgrims' Thanksgiving. Their desire to give thanks for the bountiful harvest.

December

First week.—Christmas Day with children of many lands. Christmas customs. Appeal by the principal for donations for sufferers in hospitals and for the poor.

Second week.—Meaning of Forefathers' Day—the landing of the Pilgrims. Dutch folk-dance.

Third week.—Christmas music. A song by each grade. Noels and selections of greater difficulty by choruses of picked voices. Reading or dramatization of Dickens' *A Christmas Carol* or the Bible Christmas story. Collection of gifts brought by the pupils for some group of sick or unfortunate children.

January

First week.—New Year program: (1) Brief introductory talk by the principal on plans for the new year, with inspirational comment on the desirability of forming worth-while aims, the chief aim being to strive to make this the best year of all. This informal talk should be planned to help the teachers as well as the pupils. (2) Community songs—"The Breaking Waves Dashed High," "The Swanee River," "Old Black Joe."

Second week.—Accident prevention: (1) Safety slogans by the fourth grade. (2) Composition—"How to Help the Policeman at the Crossing." (3) Dialogue—questions and answers on how and where to cross the street. (4) Posters—the A.B.C. of Safety—"Always Be Careful." (5) Pantomime—"The Results of Playing Ball on the Streets." (6) Questions and answers on the dangers of coasting, snowballing, and ice skating. (7) Safety song to the tune of "Rally round the Flag."

Third week.—Music appreciation. Each selection is to be introduced by a short talk on the work and its composer. (1) Piano solo—"To a Wild Rose" by MacDowell. (2) Victrola vocal solo—"From the Land of the Sky Blue Water" by Cadman. (3) Piano solo—"Sea Sketches" or "Woodland Sketches" by MacDowell. Selected parts. (4) Choruses by the assembly—"Dixie," "Carry Me Back to Old Virginny."

Fourth week.—Folk-dances: Swedish, Norwegian, Russian, English. Calisthenics: dumb-bells or wands. Scientific experiments: (1) How soils are made. (2) How the barometer was discovered.

February

First week.—The making of the Betsy Ross flag. (Suggestions: the story of the making of the flag or the formation of a living flag.) Patriotic songs.

Second week.—Lincoln exercise. (Suggestions: recitation, "O Captain, My Captain!" and a play composed and presented by Grade VI.) Songs of the period.

Third week.—Washington exercise. (Suggestions: a contribution from each room and the dancing of the minuet in costume.) Patriotic songs.

Fourth week.—Longfellow exercise. (Suggestions: dramatization of *Hiawatha* or *The Courtship of Miles Standish;* an Indian dance; and an instrumental selection.) Class songs.

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RELATION OF CLASS SIZE TO CONTROL OF ATTENTION

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In order to ascertain the point at which the teacher's control breaks as the number of pupils in her room is increased, the writer set up during the second half of the school year 1923–24 the experiment here described.

The sixth grade of the Mt. Pleasant School, North Sanpete District, was selected for study. The children had been divided into two groups. The A-1 section, made up of thirty-four pupils of average mental ability, was taught by Teacher B; Section A-2, including thirty-eight pupils of slightly higher average ability, was taught by Teacher A. Beginning on Monday, January 28, Teacher B selected five of her slowest pupils and sent them to Teacher A. No attempt was made to ascertain the exact I.Q.'s of these pupils. The mere fact that they were slower than the others according to the teacher's judgment was deemed sufficient for the purpose, namely, to have in each group the type of pupils generally found in schools where pupils have not been classified strictly on the basis of intelligence as determined by intelligence tests. Each group, therefore, was representative of an average classroom. This plan of sending five of the slowest pupils from Teacher B to Teacher A was continued each Monday for a period of five weeks. At the end of the five weeks the process was reversed, and each Monday for a second five weeks Teacher A sent five of her brightest pupils to Teacher B.

The teacher's ability to control the attention of the group and direct it toward the work at hand was measured by means of a device called the Group-Attention Score Card.

Directions on How to Use the Group-Attention Score Card

On entering the classroom, the observer will make himself as inconspicuous as possible. It is usually best to take a seat at one side of the room. So far as

possible, keep stop watch or watch, pencil, and paper out of view of the teacher and the pupils.

Divide the period of observation (teaching period) into phases of two to three minutes each. During each phase let your eyes pass from pupil to pupil in some definite order, jotting down as you do so a mark for each pupil who is obviously not applying himself to the work at hand. Having done this several times during the phase, take the average and subtract from the total number of pupils in the room. The number thus obtained is the number paying attention during that phase. This process is repeated for each phase. The number of pupils in the room multiplied by the number of minutes in the teaching period equals the possible pupil-attention minutes—the denominator. The number of pupils attending during each phase multiplied by the number of minutes in the phase equals the pupil-attention minutes for that phase. The sum of these becomes the P.A.M.—the numerator. The numerator divided by the denominator gives the percentage score.

Be sure to fill in the required information. Under "Remarks" describe the work going on as accurately as possible. State specifically whether the teaching period was given over to recitation, study, socialized recitation, etc.

GROUP-ATTENTION SCORE CARD

District_____ Teacher_____
School_____ Number of pupils_____
Grade_____ Nature of work_____
Date_____ Time of day_____

Teaching	Phase of Teaching Period							Total
	1	2	3	4	5			
Number of minutes in phase.....								
Number of pupils attending.....								
P.A.M.....								

Total pupil-attention minutes / Possible pupil-attention minutes _____ Percentage score_____

Remarks_____

Scored by_____

The scoring was done from two to three times a week during the hours from 9:30 to 11:30 A.M. The teachers were not informed as to the exact time that scoring would take place. The scoring was done by the principal of the high school, who had received definite instructions from the writer. Table I gives a summary of the scores.

Although Teacher A had the more mixed group and an average of approximately thirty-seven pupils in her room when the observations were made, the average percentage score for her pupils was 8.3 higher than the average percentage score for the pupils of Teacher B, who averaged 28.7 in number. It will be noticed that the scores for the pupils of Teacher A are higher throughout and that the number of pupils seems to have no appreciable effect on them. When Teacher

TABLE I

GROUP ATTENTION OF TWO SIXTH-GRADE CLASSES OF DIFFERENT SIZES

TEACHER A			TEACHER B		
Subject	Number of Pupils	Percentage Score	Subject	Number of Pupils	Percentage Score
History	23	85	History	13	92
History	23	92	Arithmetic	18	84
History	24	94	Arithmetic	19	77
History	31	93	Arithmetic	20	87
History	34	84	Arithmetic	26	86
Arithmetic	34	84	Geography	29	74
History	36	95	History	29	90
History	37	89	Arithmetic	30	86
Geography	37	82	Arithmetic	31	78
Arithmetic	38	90	Arithmetic	35	81
History	38	90	Arithmetic	37	87
Arithmetic	41	95	History	41	71
History	44	90	Arithmetic	45	65
History	45	95			
Arithmetic	45	85	Average	28.7	81.4
Arithmetic	48	90			
Arithmetic	49	92			
Average	36.9	89.7			

A had practically fifty pupils to direct, the group attention was just as high as when she had only twenty-three. A similar uniformity is seen in the scores for the pupils of Teacher B, although there is some evidence of the scores becoming somewhat lower as the number of pupils in her room increased.

Teacher A gave somewhat more attention to directed and supervised study than is common among teachers, particularly in view of the fact that the number of pupils in her room increased. Teacher B continued the recitation type of teaching procedure throughout. Teacher A reported that she had more papers to read when she did more individual teaching but found time to read and correct most of

them during school hours while her pupils were doing assigned seat work. When Teacher B had more than forty pupils, she felt, and so expressed herself, that she had reached her limit. Teacher A was quite certain that she could go on teaching fifty pupils and get just as high a percentage of group attention, namely, from 85 to 95 per cent every day, and with no more expenditure of energy than any conscientious teacher should give to her task. It seems evident, therefore, that group attention is affected more by the technique employed than by the size of the class and that, when pupils are given more individual work involving silent reading and study with the

TABLE II

AVERAGE PERCENTAGE SCORES IN GROUP ATTENTION FOR CLASSES OF DIFFERENT SIZES

SIZE OF CLASS	TEACHER A		TEACHER B	
	Number of Observations	Average Percentage Score	Number of Observations	Average Percentage Score
14 or less			1	92.0
15–19			2	80.5
20–24	3	90.3	1	87.0
25–29			3	83.3
30–34	3	87.0	2	82.0
35–39	5	89.2	2	84.0
40–44	2	92.5	1	71.0
45–49	4	89.0	1	65.0

use of pen or pencil, they give better attention to learning and the teacher can actually control the attention of a larger number of pupils. Obviously, there are upper limits to the number of pupils a teacher can handle successfully, but the results here seem to indicate that the particular number will probably depend as much on the technique of instruction as on the personality of the teacher and the nature of the subject matter taught. Table II seems to substantiate this impression. The scores for the pupils of Teacher A remain almost the same for each size of pupil group, while the scores for the pupils of Teacher B, with one exception, show a gradual decline for groups containing more than from twenty to twenty-four pupils.

Since the personality of each teacher was in no way affected by increasing or decreasing the number of pupils in her room, we must conclude that B's technique of instruction, the type commonly em-

ployed in the public schools, was better suited to an average group than to a large group. Her control of attention began to break as the number of pupils in her room was increased above thirty-five.

Table III gives the average scores in group attention in three subjects—arithmetic, history, and geography. In arithmetic the pupils of Teacher A, averaging more than forty in number, have an average score of 89.3, while the pupils of Teacher B, averaging less than thirty in number, have an average score of only 81.0. Similarly, in history the pupils of Teacher A, averaging 33.5 in number, have an average score of 90.7, while the pupils of Teacher B, averaging 27.6 in number, have an average score of 84.3. In geography only

TABLE III

AVERAGE PERCENTAGE SCORES IN GROUP ATTENTION IN THREE SUBJECTS

	Number of Observations	Average Number of Pupils	Average Percentage Score
Arithmetic:			
Teacher A	6	42.5	89.3
Teacher B	10	28.1	81.0
History:			
Teacher A	10	33.5	90.7
Teacher B	3	27.6	84.3
Geography:			
Teacher A	1	37.0	82.0
Teacher B	1	29.0	74.0

one observation for each teacher was made. The pupils were in each instance writing answers to examination questions. In such work group attention should approximate 100 per cent. However, in this case both groups fell short of the ideal, but the average percentage score of the twenty-nine pupils taught by Teacher B was 8.0 lower than the average percentage score of the thirty-seven pupils taught by Teacher A.

It will be seen from the conditions of this experiment that the pupils had become so thoroughly mixed as to represent a situation found in any average village school. The progress made by the pupils taught by Teacher A was due to factors other than native intelligence.

Tables IV and V show the scores of the two classes on standardized tests in reading and arithmetic, respectively. In rate of silent

reading Teacher A's pupils made a net gain from December to March of 31.0 per cent, while the pupils of Teacher B gained 27.5 per cent, a difference of 3.5. In comprehension the gain is 16.0 per cent for the pupils of Teacher A and 12.5 per cent for the pupils of Teacher B, a difference of 3.5. In arithmetic similar difference in the percentage of gain made by the two groups is shown. Teacher A's group made a

TABLE IV

AVERAGE SCORES IN RATE AND COMPREHENSION ON THE MONROE STANDARDIZED SILENT READING TEST

	Teacher	Rate		Comprehension	
		Class	Standard	Class	Standard
December:					
Section A-2	A	129	159	10.0	11.0
Section A-1	B	109	159	8.0	11.0
March:					
Section A-2	A	169	164	11.6	11.1
Section A-1	B	139	164	9.0	11.1

TABLE V

AVERAGE SCORES ON THE WOODY-MCCALL MIXED FUNDAMENTALS

	Teacher	Average Score	Standard Score
December:			
Section A-2	A	21.8	22.50
Section A-1	B	18.0	22.50
March:			
Section A-2	A	26.5	22.74
Section A-1	B	19.5	22.74

gain of 21.6 per cent, and Teacher B's group, 8.3 per cent, a difference of 13.3.

The gain made by the pupils under the direction of Teacher A over that made by the pupils of Teacher B seems to be due to the technique employed quite as much as to the personality of the teacher. It seems quite evident that when the teacher gives more attention to supervised study and well-directed seat work she can secure a higher degree of persistent attention, which is a vital factor in the economy of learning.

A SILENT-READING EXPERIMENT IN RURAL AND VILLAGE SCHOOLS

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During the year 1923–24 the State Normal School at Indiana, Pennsylvania, conducted an experiment in reading in connection with extension courses offered at Alverton, Kittanning, Leechburg, and Portage. The classes were composed of teachers of the township schools, about half of them teaching in one-room rural schools and the others in village and consolidated schools. In many of the schools all the children were of foreign parentage. In most of the schools the majority were of foreign parentage. The teachers were mostly poorly prepared. None of them were normal-school graduates. The smallest class consisted of eighteen teachers; the largest, of thirty-two.

The classes described were organized in February and met each week for a period of two hours to discuss the problem of silent reading. *Silent Reading* by Charles E. Germane and Edith Gayton Germane was used as the text. At the beginning of the course each teacher was asked to select a small group of from five to ten children to use in trying out a project in connection with the course. If the teacher was teaching in a rural school, it was suggested that an entire class be used. Each teacher gave a group intelligence test to get a rough measure of the general ability of her group.

The plan was to try for ten weeks to teach silent reading, largely as suggested in the text, supplemented to some extent by suggestions from the instructor, to see how much improvement could be made. The children were to be excused from their regular reading classes, and for ten weeks there was to be no oral reading, no word drills as such, and no drills in phonetics. Instead, the children were to read for two minutes each day while the teacher timed them. Then they were to be tested on what they had read. After this there was to be a short drill on phrases and sentences to help the pupils to lengthen

their eye span. They were also to be encouraged to do much reading both at school and at home.

After the intelligence test was given, the teacher gave an informal reading test to obtain a measure of the normal ability of the children. This test was usually repeated the following day; the average of the two tests is taken as the preliminary ability in the tables presented. The teacher then talked with the children about the experiment and tried to arouse as much interest on their part as possible. In some of the schools graphs of each child's progress were posted on the bulletin board. In other schools a graph of the progress of the group was kept in a conspicuous place. Many of these graphs were submitted at the end of the course as evidence of the progress made.

The teachers were anxious to make a good showing, and they usually chose a group of their brightest pupils. However, in at least two cases groups of repeaters were selected, and in another case a group of very inferior children was used. For obvious reasons, the intelligence ratings of the groups are not given, although in most cases the information is on file with the director of extension.

There were ten teachers who used first-grade groups and whose results were submitted in such form as to be usable in the present discussion. It is not claimed that these results are absolutely accurate. The teachers had no standardized tests to use. Each teacher made her own comprehension tests. These differed so much that the results cannot be compared. It is believed, however, that these teachers were fairly accurate and that they are sincere, dependable persons. Therefore, the following reports on speed are largely reliable. In some cases the only material available had been used before, so that a child could race through it and still make a high comprehension score.

Of the ten teachers who used first-grade children, four were from the Kittanning class, three from the Leechburg class, and three from the Portage class. The average preliminary rate of the Kittanning groups was 63 words a minute; the average final rate, 173 words. The average preliminary rate of the Leechburg groups was 88 words a minute; the average final rate, 161 words. The Portage groups began with an average rate of 46 words a minute and ended with an aver-

age rate of 108 words a minute. The average rate of each class is given in Table I. This table indicates that the children studied had almost first-grade ability when the experiment began. Two groups, taught by Teachers 1 and 10, were made up of children who had just entered school. The other groups had been in school for five months. After ten weeks of intensive training they read as well as fourth-grade children, a gain greater than that usually made in three years.

TABLE I

FIRST GRADE

TEACHER	GRADES TAUGHT	NUMBER OF PUPILS ENROLLED	RATE OF READING IN NUMBER OF WORDS READ A MINUTE	
			Preliminary	Final
Kittanning:				
1	I B	55	15	106
2	I A	40	101	284
3	I–VIII	12	85	120
4	I–IV	43	49	183
Average			63	173
Leechburg:				
5	I	26	55	105
6	I–II		84	224
7	I–III		125	155
Average			88	161
Portage:				
8	I	35	105	138
9	I		17	80
10	I	55	15	106
Average			46	108
Average of all classes			65	150

Sixteen teachers used second grades for the experiment. The results are shown in Table II. The sixteen second grades began with slightly higher than second-grade ability. It must be remembered, however, that this does not mean that the average ability of all second-grade children in the schools of these teachers was up to standard. The children studied usually represented the five or six brightest ones. Even they were only slightly above the standard for second-grade children. At the end of ten weeks their average rate of reading was 252 words a minute, slightly above eighth-grade ability. This is all the more remarkable when it is remembered that

this represents the average accomplishment of about 199 children taught by sixteen different teachers of not more than average ability.

Eight teachers used third grades. Table III gives the details. The eight groups of third-grade children began with average sixth-

TABLE II

SECOND GRADE

TEACHER	GRADES TAUGHT	NUMBER OF PUPILS ENROLLED	RATE OF READING IN NUMBER OF WORDS READ A MINUTE	
			Preliminary	Final
Alverton:				
1	I–VIII	45	131	251
2	II–III	49	77	317
3	II	50	147	191
Average			118	253
Kittanning:				
4	I–III	40	110	200
5	II	29	125	222
Average			118	211
Leechburg:				
6	II–III		156	198
7	I–II		139	180
8	II	48	101	333
9	II	39*	108	135
10	II		115	216
11	II	36	160	301
12	I–III	34	76	387
Average			122	250
Portage:				
13	I–II	40	109	348
14	I–II	80	131	193
15	I–II	40	160	365
16	II	54	49	190
Average			112	274
Average of all classes			118	252

* The selected group was made up of repeaters.

grade ability and attained slightly above eighth-grade ability, a gain of more than two grades.

Thirteen teachers used fourth grades, as indicated in Table IV. The pupils represented began with nearly fifth-grade ability and attained considerably better than eighth-grade ability. These fourth grades gained as much in speed in ten weeks as is usually gained in about three years.

Seven teachers used fifth grades. The results are shown in Table V. The seven fifth-grade groups began with seventh-grade ability and gained more than is usually gained in three years.

Eight teachers used sixth grades. Table VI shows the details. The eight sixth grades began with seventh-grade ability and probably gained as much as is usually gained in three years.

Five teachers chose seventh or eighth grades or a combination

TABLE III

THIRD GRADE

TEACHER	GRADES TAUGHT	NUMBER OF PUPILS ENROLLED	RATE OF READING IN NUMBER OF WORDS READ A MINUTE	
			Preliminary	Final
Alverton:				
1	III	50	172	231
Kittanning:				
2	I–VIII	45	198	253
3	I–III	.....	250	512
4	I–VIII	23	73	197
5	I–III	52	120	181
Average	.....	.....	160	286
Leechburg:				
6	III	.....	271	270
Portage:				
7	II–III	42	140	199
8	III	49	160	297
Average	.....	.....	150	248
Average of all classes	.....	.....	173	268

of these two grades. These are grouped together in Table VII. The five groups of seventh and eighth grades began with eighth-grade ability and made an average gain greater than the gain usually accomplished in three years.

SUMMARY

The children in the first grade made as much gain during a period of ten weeks of intensive drill on silent reading as is usually made in three years. The second grade gained as much as is usually accomplished in six years; the third grade, as much as is usually accomplished in two years; the fourth, fifth, sixth, seventh, and eighth grades, as much as is usually accomplished in three years. This

represents an average gain of more than three years made in ten weeks. Many of the teachers who worked on this experiment were so surprised at the gains made that they plan to try the same methods with their entire schools next year to see what gains are

TABLE IV

FOURTH GRADE

TEACHER	GRADES TAUGHT	NUMBER OF PUPILS ENROLLED	RATE OF READING IN NUMBER OF WORDS READ A MINUTE	
			Preliminary	Final
Alverton:				
1	I–V	18	198	311
2	III–V	30	148	311
Average			173	311
Kittanning:				
3	I–VIII	32	127	164
4	I–VI	45	120	190
Average			124	177
Leechburg:				
5	IV	42	135	195
6	IV–V	46	194	409
7	IV	46	149	525
Average			159	376
Portage:				
8	IV	49	132	259
9	IV	42	197	356
10	IV	25	135	175
11	III–VI	38	135	195
12	IV	49	255	590
13	III–IV	30	214	312
Average			178	315
Average of all classes			165	307

possible in a year working with average groups instead of selected groups.

Every teacher reported gains in comprehension during the experiment. The gains made would average at least 25 per cent. Many believed their groups gained 50 per cent. Since there was no adequate measure of this gain, it can be estimated only roughly. The experiment was not undertaken to discover how much could be gained. Its original purpose was to convince the teachers of the possibilities in the teaching of silent reading.

If a group of untrained teachers teaching in rural and village schools can make such remarkable gains, what could be done by a

TABLE V

FIFTH GRADE

TEACHER	GRADES TAUGHT	NUMBER OF PUPILS ENROLLED	RATE OF READING IN NUMBER OF WORDS READ A MINUTE	
			Preliminary	Final
Alverton:				
1	III–V	43	165	253
Portage:				
2	V	41*	162	435
3	V	53	270	515
Average			216	475
Kittanning:				
4	I–VIII	22	249	329
Leechburg:				
5	V	50	292	334
6	I–VI	48†	120	130
7	V	40	280	429
Average			231	298
Average of all classes			220	346

* The selected group was made up of repeaters.
† Subnormal.

TABLE VI

SIXTH GRADE

TEACHER	GRADES TAUGHT	NUMBER OF PUPILS ENROLLED	RATE OF READING IN NUMBER OF WORDS READ A MINUTE	
			Preliminary	Final
Kittanning:				
1	I–VIII		215	267
Leechburg:				
2	I–VIII	56	206	268
3	V–VIII	35	236	308
4	VI	37	198	280
5	V–VIII	39	177	246
Average			204	276
Portage:				
6	III–VI	39	294	517
7	VI	49	236	397
8	VI–VIII	22	226	561
Average			252	492
Average of all classes			224	356

TABLE VII

SEVENTH AND EIGHTH GRADES

TEACHER	GRADES TAUGHT	NUMBER OF PUPILS ENROLLED	RATE OF READING IN NUMBER OF WORDS READ A MINUTE	
			Preliminary	Final
Alverton:				
1	I–VIII	28	190	498
2	VI–VIII	20	261	396
Average			226	447
Kittanning:				
3	I–VIII	17	261	267
4	I–VIII		287	414
Average			274	341
Portage:				
5	I–VIII		235	467
Average of all classes			247	408

group of well-trained teachers working under ideal conditions? Modern life demands that we read many times as rapidly as we now do. Even then we cannot hope to read nearly all that we should like to read. At the present time adults read about 250 words a minute. There is reason to believe that this can be increased to six or seven hundred words a minute.

A STUDY OF SCHOOL POSTURE AND SEATING

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For more than two years the writer has been fortunate in having at his disposal unusual facilities for studying one of the vital and urgent problems of education, namely, the posture of school children and the seating equipment of schools. These facilities have been afforded by the Experimental Schools of the School of Education of the University of Chicago and by a leading industrial organization engaged in the manufacture of school seats. As research adviser for this company, the writer is continuing these studies indefinitely and as rapidly as practicable will make them available for the educational public. The investigations have led into a surprising range of anatomical, educational, sociological, industrial, commercial, and mechanical fields. A summary of the results which will be of interest to school officers is as follows:

1. In the first place, bibliographical study was made. The American and the principal European literature of school hygiene was fairly well canvassed for facts and opinions concerning seating; a considerable section of medical literature was covered in the search for discussions and implications regarding the nature and influence of sedentary postures and related physical defects; and the literature of school management, organization, and administration and scattering articles on seating were scrutinized. Some two hundred distinct writings were deemed sufficiently relevant to be listed. In general, the net result is an almost unanimous opinion that school seating has been and is not only very bad but productive of many serious physical defects, particularly spinal and visual; that traditional designs, dimensions, and educational uses are deserving of drastic pedagogical and hygienic criticism; that a host of devices have appeared from time to time in the fond hope and confessed expectation of solving all the difficulties incident to the problem, most of which have been relegated to the class of "freaks" or have been abandoned

because they were ill adapted to classroom conditions or because they introduced more evils than they cured; that everyone recognizes the school desk as the "bugbear of school hygiene" but few know what to do about it except to criticize.

2. An anatomical and physiological study, fairly thorough for one not trained in medical science and supported by consultations with those who are, has resulted in the conviction that the complaints and fears expressed by school hygienists have not been exaggerated; that the danger of spinal defects resulting from school postures is great and has been stated often by orthopedic experts but is not well known among educators; that the effects of habitual bad posture on health and vitality as well as on educational efficiency have been appreciated by very few even of the medical fraternity, and that this causative or aggravating influence has been ignored in innumerable cases which are diagnosed as thoracic, abdominal, or pelvic disorders; that postural ills are so subtle, so long deferred, and so complicated with other influences as seldom to be recognized; and that very many of the visual defects with which the educated classes are afflicted are properly chargeable against postural errors—more specifically, seating errors. It is conservative to say that there is involved in the problem of the hygiene of school seating a matter of great moment to public health as well as to educational progress.

3. Observational studies have been made, intensive and statistical on the one hand and extensive and impressional on the other. After preliminary experiments, a card record form[1] was prepared on which the posture of every pupil in a room at a given time, with other pertinent data, may be recorded with a minimum of time and effort. Eight or ten minutes is usually adequate to secure a record of typical postures in a fairly large class. Approximately five thousand individual posture records were made and analyzed with reference only to "spinal profile" or types of stoop and erectness. As the tabulation did not include lateral irregularities of position, the actual facts are worse than indicated in the following brief summary. It was found

[1] A sample or supply of these cards, with a description of the methods employed, will be furnished to any person who cares to make first-hand observation of the actual sitting posture of school children. The only return asked is the data secured through their use.

Boston University
School of Education
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that sitting posture is definitely stooped in 59 per cent of all the cases, being slightly worse among the girls (60 per cent) than among the boys (58 per cent). The boys show a 50 per cent greater tendency to slide down in their seats, while other forms of stoop are more common among the girls. The best average posture is among the first-grade girls, and the worst (70 per cent bad) among the seventh-grade girls. Bad posture increases progressively through the grades more among the girls than among the boys. Average posture is the worst (65 per cent bad) during typical reading and writing activities, less bad (57 per cent bad) during recitation when attention is directed toward the teacher or blackboard, and the best (39 per cent bad) during construction work and manual activities. Bad posture increases from 54 per cent in the morning to 66 per cent in the afternoon. It is about the same in the first half of the class period as in the last half.

A large number of schools have been visited in many cities from the Rocky Mountains to the Atlantic Ocean, and sincere appreciation is here expressed to the many teachers and school officials whose uniform courtesy and interest made these visits pleasant as well as profitable. Much information has been gathered with regard to current opinions and practices in classroom seating which cannot well be condensed into this brief statement. Special attention was given to new and unusual types of equipment and to the effect of these on problems of posture and vision. Much is to be hoped for from the general unrest and dissatisfaction with regard to school seating among progressive educators. Some communities are trying out new ideas, often at the sacrifice of more than is gained but always with the advantage of having the new tried out. Even where interest is the greatest and supervision the best, the most zealous reformers have been free to confess that the problem is not solved and that new devices introduce new difficulties, most of which are not foreseen.

The most universal tendency noted is undoubtedly the use of seats too high and too long (front to back) for their occupants; this is true regardless of the type of seating. Desks, also, are generally too high, even though the knees are often crowded by the book boxes. Movable seating is installed in many schools, but the real advantages of mobility are seldom fully attained. It is not uncommon to find

movable seats set in rigid straight lines and moved only by the janitor or by the pupils in spite of the teacher. Where teachers actually have seats moved into various formations and groupings for instructional purposes, the problem of lighting is often disregarded. It is equally noticeable that adjustable seats are seldom adjusted and that, where adjustment is made, the methods are such that the seats are usually too high and the seats and the desks are out of proportion to each other. Frequently, although less commonly, the seats are placed too far from the desks. This is sometimes due to following the oft-stated, but meaningless, rule requiring a two-inch "minus distance"—that is, overhang of desk edge over seat edge. Since there is no standard of length or form of seat, the position of the front edge of the seat has nothing to do with spacing. This should be determined from the sitting hollow or from the back support. Some seats are more closely spaced at "zero distance" (no overhang) than are others with three inches "minus distance." It is far from the writer's intention to make wholesale criticism of the excellent schools visited, but it is important to indicate certain very prevalent conditions which can be easily remedied. The dominant impression is that educators everywhere are open to suggestion and anxious for information based on scientific knowledge and experiment but are suspicious of lecture-room theories and the limited experience of untrained enthusiasts.

These observations have enabled the writer to note the pedagogical requirements for different types of work in relation to seating equipment, as well as the postural effects of many minor differences of construction. Among the best teachers are found advocates of the most formal rigidity, ultra-modern enthusiasts demanding mobility in its most extreme form, and those seeking the happy medium of flexible stability in seating. From all have been gathered opinions and suggestions invaluable in this study.

4. The most elaborate and precise part of the study has been that devoted to measuring more than twenty-five hundred children in all proportions pertinent to seat and desk dimensions. For this purpose there has been developed at considerable expense a very elaborate and effective apparatus by which the children of selected schools in Chicago, Winnetka, Cleveland, Philadelphia, and

Des Moines have been measured. For each child the following measures are recorded: standing height, sitting height, shoulder height, seat height, elbow height, seat length from lumbar curve to angle under knees, sitting length from ischial bones to angle under knees, hip height from seat, back length from hips to shoulder blades, curvature of back, abdominal diameter at elbow height, thigh thickness at abdomen, thigh length from abdomen to knee, height and forward distance of knee cap from angle under knees, and length of forearm. Other measures are obtained from these by addition or subtraction. The standing height is taken as the child approaches. He is then seated, and the apparatus is adjusted to him in erect sitting position. The other fifteen measures are then read off as rapidly as they can be written by an assistant. The measuring of a child requires from one to two minutes, most of the time being consumed in getting him properly seated, erect with shoulders well back and down. Entries are made on individual cards which have been filled out in the classroom with name of school, room number, grade, sex, name of pupil, age in years and months, and weight. There are also spaces for noting physical peculiarities and nationality if desired and for recording the dimensions, type, and condition of seat occupied. The technique of taking each measure was fixed upon with care after due experimentation, and extended use has suggested only slight modifications. Each measure is recorded to the nearest quarter inch. Altogether, some twenty-three numerical measures are obtained for each child, and these have thus far been tabulated and correlated in more than fifty different ways for groups of from six hundred to fifteen hundred cases. While numerous means, variations, indices of correlation, partial correlations, and regression equations have been calculated, most of these are of value mainly in determining the sufficiency of the data. Interpretation of measures into seat and desk dimensions or grade distributions has been determined by the bearing of certain anatomical facts rather than by pure mathematics.

The mean correct seat height is almost precisely one-fourth (.2512) of the mean standing height, and the correlation of these two measures is .94. In view of the principle that one may be hygienically seated somewhat lower, but never higher, than his measured

seat height, it is found that 59 per cent of fifteen hundred pupils would be correctly seated if the .25 ratio were adopted; 38 per cent would be correctly seated if in seats one inch lower than the height dictated by this ratio; and the remaining 3 per cent would be correctly seated if in seats one and one-half or two inches lower. Comparison of the accurately measured seat height of pupils with the height of seats actually occupied in one city school of superior organization and equipment showed 7.4 per cent of the pupils correctly seated, 4.2 per cent in seats slightly but not objectionably low, and 88.4 per cent in seats too high, 25 per cent being in seats two inches too high and more than 5 per cent in seats three inches too high. Unusual interest had been taken in adopting advanced ideas in seating in this school, but, as so often happens, a fundamental idea had been overlooked. The prevalence of high seats, however, is typical rather than exceptional. It may be well to add here that in our technique of measuring, seat height is regarded as correct when the seat touches the leg without pressure just behind the knees while the pupil is seated with feet squarely on the floor. The measuring device determines the degree of pressure at this point with readiness and accuracy. The old rule that the seat height should be two-sevenths (.2857) of the standing height was based on obviously defective methods of measuring.

The seat length is regarded as the horizontal measure from the lumbar back support to the front edge of the seat, since the fleshy mass of the buttocks (gluteal muscles) functions for neither seat nor back support. This measure (taken to the angle close under the knees) gives a mean ratio of almost unity (1.078) with the seat height, the correlation for a group of fifteen hundred pupils being .84. However, seat support close under the knees can serve no function except to lift the feet from the floor and is to be avoided. A series of calculations taking anatomical and hygienic facts into consideration indicates that the seat length should never be more than 85 per cent of the seat height. A check shows that a very large proportion of seats in use are too long and that many pupils cannot make proper use of the back support on that account.

Equally important is the sitting length measured from the resting point of the seat bones (ischials) to the angle under the knees.

The mean ratio of this length to the full seat length is .753, with a correlation of .54. A surprising fact is the wide range of relations of this sitting point (resting point of the ischials) to the lumbar back support. This point is found to vary from one inch *behind* the lumbar curve to nine inches forward of it, a variation of eight or nine inches being found for nearly every seat-height group, the correlation of this measure with seat height being only .09. These facts point to the serious error in attempting to fix the sitting point with reference to the back support by means of a pronounced hollow in the seat bed. If erect posture is to be possible, each individual must be free to slide back in the seat as far as his particular back contour may require, and any ridge or elevation at the rear of the seat bed tends merely to slide him forward into bad posture. Sagging cane seats are also pernicious in this respect.

On anatomical grounds it is determined that the lower limit of back support should be approximately at the height of the hips (iliac crests) and the upper limit at the points of the shoulder blades, subject to certain variations according to the form of the support. The hip height and the back length (from hips to shoulder blades) are found to have precisely the same range for fifteen hundred pupils of all grades, namely, from four to eleven inches, but the correlation between the two measures is low (.236). In a single seat-height group there are some individuals who have a hip height of eleven inches, others who have a back length of eleven inches, and still others whose hip height and back length total eleven inches or less. This makes the problem of a suitable back design exceedingly complicated and involves considerations which cannot be discussed here.

The correct placing of the seat with reference to the desk must be expressed with regard to the sitting point, as determined by the shape of the seat, and to the back support, as determined by the shape of the back, as well as to the abdominal diameter and the length of the arm. Relevant statistical data cannot be presented adequately in a brief space, but it may be said that seats providing suitable lumbar back support can be spaced closer than others because they permit more erect posture.

The desk height must be determined from the elbow height, modified with reference to the forward distance and the slope of the

desk top and the major type of work for which it is intended. The most serious difficulty is to get the writing surface sufficiently low and yet retain adequate clearance for knees and thighs so long as the book box under the desk top is made as deep as usual. A prevalent error is the assumption that the difference between the seat height and the elbow height increases with increase of stature. The figures show an insignificant change in this measure from the lower to the higher grades, the growth in the length of the upper arm serving to lower the elbows on the average at about the same rate that the growth of the trunk raises them.

5. A fifth general line of study has consisted in sundry experimental modifications of seat and desk designs and proportions with careful observation of their effect on posture in actual classroom use and in the testing of various arrangements of seats with reference to window lighting. From the latter has evolved a "quadrant plan" which has been tried in many schools with gratifying results and which seems to secure the best possible lighting in every part of the room besides certain economies in floor space and educational advantages.

Pending the completion and final publication of these studies, the writer will be glad to furnish more specific data, so far as practicable, to those interested or to co-operate in working out specific seating problems with which educators may be confronted.

SOME SUGGESTIONS FOR OUTDOOR SCIENCE TEACHING

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The attitude of a class and the teacher toward their outdoor work should be that they are going out to have a pleasant time together, to enjoy the air and sunshine and the beauty of nature, and to learn something of her secrets. The teacher need not fear that the children will discover that he is not omniscient; they probably have found that out already. Nature is so large that the most experienced naturalists know only a little. I am constantly learning from my students and with my students; this would no doubt be the case if they were only half as old as they are. I believe that the right attitude will do much to overcome the difficulty of discipline. If each student feels that he and the teacher and all the rest are going out to see and learn and understand, that he can tell, with regard to something they will see, what others in the class do not yet know, or that he can find what others have not found, his energy can easily be directed along useful lines.

Some suggestions for outdoor instruction may be given by referring to recent experiences at Bowling Green, Ohio, but the successful teacher will adapt his methods and the selection of material for outdoor study to the capacity of the pupils and the limitations of the environment.

With forty-two students in nature study, I went a short distance by train. After walking a little way along the track (a single-track road) and crossing a stream on the railroad bridge, I stopped the class to ask a few questions: "Why does the engine of the train that brought us have big drive wheels?" "How many were there on one side?" "How about the drive wheels of the freight engine that passed us while we were waiting for our train?" "Why are there rails inside the other rails where the track crosses the bridge?" Their answers to the last question were not satisfactory, and I told them

to discuss it at dinner or at some other time after we returned. I think that this was better than telling them the reason. I asked them which way was west. They were in a place they had never visited before, but many, if not all, could point to the west instantly, for it was a clear day and early.

As the students were full of energy and eager to get to a forest less than half a mile away, I detained them only a short time but remarked, "I hear red-winged blackbirds. Who can see them?" As the birds flew past without coming very near, it was easy to see them, but a casual observer would not have noticed that they had red on the wings. By watching them closely until they turned about to settle down in a honey-locust tree, we could discern their red epaulets, and a little later those of one of the birds that had perched could be plainly seen. Following these were other birds that seemed smaller as they flew into the same tree. "What are they?" I asked. There was no response. Soon several birds left the tree and flew away together. By close watching, we saw that one was smaller than the rest. Only a day or two before, the class had seen stuffed specimens of red-winged blackbirds, male and female. Although the living ones were too far away for us to distinguish any dull colors, the interest in seeing birds of two sizes in one flock was greater than it would have been if we had not previously seen specimens of these birds. Most schools have no stuffed birds, but the principle may be applied to any objects that may be brought into the schoolroom. Even things which cannot be carried, if they are already somewhat familiar, may well be made topics for discussion or for questions before the class is taken outdoors to observe them more carefully. This discussion, with questions left to be answered by outdoor observation, will help to get all the pupils interested as soon as the right place is reached.

From the foregoing it will be evident that when outdoors with a class I do not feel that I must confine the students' attention to one class of objects. Had we noticed nothing but birds that morning, the sixteenth of October, in a region where the only stream was polluted with crude oil and where there were neither orchards nor evergreens, our observations would have been few indeed. Even the plants which we saw on the way to the woods were not so numerous or so

interesting as those we might have seen near the college, but, once in the woods, all were so busy collecting specimens to press and learning new names that little time could be given to anything else. Even with a class in zoölogy I do not hesitate to call attention to topographic features of the region we visit or to the work of man. I am not likely to go with any class to the same place so often that we can most profitably devote all the time of one excursion to a single subject. Each trip affords the students an opportunity, such as they will probably not have again, to learn about several quite different things.

Observation that is intended to enable one to recognize a species involves comparison with related species. To distinguish a bur oak from a white oak or a red oak from a black oak, if they are not growing side by side, the student should carry leaves and acorns from one to the other and notice the points of difference. Collections of good specimens, well preserved and arranged, help greatly. Buckeye trees are not common in every town, but one may usually be found not far from a horse-chestnut tree so that the fruits and leaves can be compared. It is not sufficient for the pupil to see that the buckeye leaves have five leaflets and that many of the horse-chestnut leaves have seven. If he had but a single leaflet from each tree, he could find several differences between them by making an effort to do so. After the class is asked whether both of these trees can be found growing in the woods, the pupils may be told that the horse-chestnut does not grow wild in America but in southeastern Europe and southwestern Asia.

It is permissible to ask a great variety of questions, and this is probably the best way to stimulate observation and thought. The successful teacher not only will ask appropriate questions but will dispose of the answers in a way that will impart knowledge and power to a large part of the class. No individual member of the class should be permitted to answer a large part of all the questions. Such questions as the following serve a purpose: "What is the name of this?" "Where have we seen it before?" "How is it used?" However, questions that require some investigation of the things at hand should receive more attention. Tell the class that no answer is wanted until all have had a chance to examine the thing. For ex-

ample, the question might be asked, "To what plant is the black nightshade related?" Someone might happen to know that potatoes and tomatoes belong to the nightshade family and give a correct answer at once. This would be of little use unless the pupils were to see in what respects these plants are alike. Perhaps the class could find a nightshade growing as a weed by the side of a tomato plant, as one of my classes did. If not, they could carry one and place it beside the other, or—what is not so good—let them recall the foliage and blossom and fruit of a tomato plant while looking at the corresponding parts of the nightshade. Then the fact may be brought out that under cultivation the fruit of the tomato has become large and among the most valuable of all our fruits, although at first people were afraid of it. The nightshade family includes a number of poisonous species, such as the deadly nightshade or belladonna, which is the source of atropin, and henbane (neither of them common in this country), as well as the familiar jimson weed and tobacco. The foliage of the potato and tomato plants is less poisonous. Our common weed, black nightshade, is somewhat poisonous. Even its fruit, when unripe, is probably not safe; yet, by cultivation and selection, the plant has been made to produce one of the most delicious of all the berries we use for sauce—the so-called "garden huckleberry."

Probably the most useful questions are those which require an explanation of something that is being observed or has been observed. When an answer is given by a pupil who is sincere, it is often not best for the teacher to say at once that the answer is right or that it is not right. It is best that its validity be tested. If no pupil is ready to challenge the answer, the teacher should ask questions tending to show whether the explanation is reasonable or not. There are often several good reasons for things. Recently I asked a zoölogy class why squirrels have such tails as they have. I had in mind four good reasons, but the class brought out about as many more. Another day when a girl reported some observations she had made on a chipmunk, the question was asked, "Why are the tails of chipmunks not as bushy as those of squirrels?" The difference between them increased the probability that there was some validity in the answers previously given as to the tails of squirrels, for a chip-

munk, which in many ways is like a squirrel but rarely goes high in a tree, would not have the same uses for a bushy tail.

Such questions would be suitable for children of any age. Young children have better imaginations than older ones and often as good powers of observation. Their ability to explain many things is less, and they are quicker to accept any explanation that may be given. In asking for explanations, the teacher must consider carefully whether the child's previous knowledge or experience is adequate for comprehending the right explanation when it is presented. A lazy pupil of any age is ready to accept the first answer that is given, especially by the teacher, whether it is reasonable or not. If the pupils are not ready to suggest plausible answers that are incorrect, let the teacher do so, in order to have them tested.

There should be some opportunity for pupils to ask questions, and they should be commended when they ask questions that show thought. Although the teacher may be able to give a direct answer at once, it is not always advisable to do so. It may be better to suggest observations or experiments designed to afford the desired information, or these may be elicited from one of the pupils, perhaps from the one who raised the question.

Unless the teacher can spend more time outdoors with her class than present school programs permit, it would be a mistake to depend wholly on questions and answers as a means of instruction. If I have a class where all can see an excavation in a sand dune, I ask how the sand came there. If some say the wind carried it there, I ask them to look for bowlders in it, or pebbles, or coarse sand. If they find none, I ask them, "Why?" "Whence came the sand?" Perhaps an abandoned lake beach is near at hand. If they discover this, well and good. The origin of the lake that formed the beach, where its outlet was, how deep it was, and when it ceased to cover the level, fertile land that now stretches out before them with its rich crops of corn and tomatoes—these things I tell them as best I can.

Investigation often requires something more than merely looking at the outside of things. Flowers should be opened; leaves should be bruised and smelled; fruits should be tasted. A knife is of use in opening galls and cockleburs. Without seeing what is inside these things, the child only half knows their nature. He may know that

the burs stick to his clothes, to the wool of sheep, and to the tails of cows and the manes of horses and that the plant is a rank weed in cornfields, being difficult to pull up or cut off when old and, when young, poisonous to the animals that eat it. By seeing the inside of the bur, the pupils can understand how well protected are the seeds and why there are two of different sizes. If the larger, which will sprout first, should grow into a plant that is trampled to death by the animal that had carried the bur, the smaller seed, sprouting the following year, will give another chance for the renewal of life. Without opening it, a pupil would not know whether a fruit brought to his attention for the first time contains a core, a stone, or a soft pulp with many seeds.

Lazy pupils are not always cured of their laziness by being taken out of doors. If they make no effort to answer questions by their own observations and reflections but are content to let others answer, they are destined to failure. Much of what the teacher tells about specimens in hand should be things that can actually be seen. For the pupil to listen attentively to what is said, or even to write it down, is not sufficient. It is more important for him to see and comprehend than to make notes about a thing or to endeavor to impress his memory with it.

The teacher should spell names with which pupils are unfamiliar, and probably they will learn them sooner if they write them. However, with the brief time usually allotted to field work, the pupil should not be required to write much, if anything, while out of doors. If he attempts to make notes, he will fail to see all that he should and to comprehend explanations that are given. I believe that he should not be asked to carry a notebook.

Learning the name of a thing is useful chiefly as a help in finding out more about it or in telling others about it, but the pupil should not take his eyes from an unfamiliar bird in order to write down the name. Good observation requires persistence and sometimes fatigue. I drew the attention of a class to a bird the size of a pigeon which was flying so far away that the students had not noticed it, and none could tell what it was when they first saw it. We watched the bird while it remained in sight, circling and gradually rising higher until it had attained a position nearly over our heads, at a

height of perhaps a thousand feet. Hereafter when they see a bird act in that way, these students will feel pretty sure that it is a hawk. To have glanced at it and written the name would have been useless.

Science, properly taught, will help materially in developing independence and good judgment. The question is asked, "What is this tree?" Observing that it has pinnately compound leaves and that the bark is rough, someone whispers, "Walnut"; then several others say, "Walnut." Someone finds a walnut under the tree; then nearly all of the class feel sure that it is a walnut tree. But one student has doubts; he can see no nuts on the tree but notices, still clinging in a number of places, slender stalks that must have borne a much lighter fruit than the walnut. Furthermore, the branches have an opposite arrangement. He concludes that the tree is an ash. His success gives him self-confidence, and many another student will come to rely on his own judgment when he realizes that the class is often wrong and that he may come independently to right conclusions if he is persistent in discovering the things which observation will bring to light.

Students of all ages should be encouraged to talk at home and in other places about the things they learn and to think about them at other times. They should not, however, attempt to make information obtained from others take the place of observations and conclusions of their own.

The following suggestions may be of some value:

1. When speaking to a single pupil or a small group, the teacher should talk in a low tone, so that when speaking louder he will promptly get the attention of all.

2. In order that all pupils in a large class may see plainly something on the ground, it is necessary to prevent them from forming too small a circle about it.

3. In order to reduce the number of specimens which he may be asked to name by individual pupils, the teacher should announce that he will call the class together toward the end of the trip and hold up specimens and name them so that the whole class can learn their names.

4. Specimens which are held in the hand should be held high enough so that all the pupils may see them.

5. Towhees and some other birds that stay near the ground may be driven into the plain view of a class by sending one or two of the pupils around to the other side of the bush where the birds are partly concealed.

6. If pupils are to collect specimens, have them go prepared for it. For example, have them take paper boxes, if nothing better, to prevent leaves from wilting before getting them home.

Most children have seen so little of the world—so little, indeed, of that small portion of the world that lies not far from their own homes—that every available opportunity should be used to make them more familiar with it. They are not born with a knowledge of things. Unless we give them an opportunity to see, or taste, or smell, or hear, or feel, why should we expect them to know much more than calves or kittens know, even though their mental capacity is much greater? G. Stanley Hall found that more than half the children in Boston, when they first entered school, did not know that the material of which tables and other wooden articles are made is obtained from trees. Three-fourths of them had not seen, to know them, any of the common trees or vegetables. One of my students tells of a young visitor to the farm who, after seeing her busy milking until the pail was half full, inquired seriously why she did not fill the pail. Another student says that a woman once asked her grandfather, "What kind of cow gives buttermilk?" A nineteen-year-old girl was interested in seeing her hostess use the churn. Prior to that time she knew neither how butter was made nor from what it was made. I learned of a woman who had lived many years in England and later several years in Ohio before she knew the source of milk. I was puzzled, when looking at the various animals on exhibition at Belle Isle, to know what there was remarkable about a Holstein cow in one of the pens. Later I learned that some dairyman had donated this animal to the park in order that thousands of Detroit children might see a cow.

If ignorance prevails about the sources of such things as wood, milk, and butter, what about things less common? A boy who had eaten home-grown strawberries while visiting on a farm looked over the place and returned to the house, declaring that he could not find the strawberry tree. A large part of my college students have never seen, before entering college, a chestnut bur, a hazel bush, or a

beechnut. Some are not familiar with butternuts. Scarcely any know how cranberries grow. A majority have not seen peanuts growing. We found the hog peanut, which likewise matures its fruit underground, growing wild on the college campus, as it does in ten thousand other places in northwestern Ohio.

Alice W. Rollins has said, "What a child has felt he never forgets; what he has merely been told he may not remember five minutes." Lange has said, "The numerous concrete, fresh, and strong ideas gained in earliest youth are the best helps to apperception for all subsequent learning."

Educational Writings

REVIEWS AND BOOK NOTES

A picture-story method of teaching beginning reading.—In recent efforts to improve the teaching of reading, much attention has been directed to the development of effective methods of teaching beginning reading. One of the latest developments in this connection is the *Picture-Story Reading Lessons*, Series I,[1] prepared by Nila B. Smith, of Detroit, under the direction of S. A. Courtis. These lessons and the general plan of teaching reading that supplements them are the product of several years of experimental teaching in the Detroit schools.

The aims of the picture-story lessons, as given by the authors, are to develop power "to purpose through reading situations," to train the child from the beginning to use reading as a tool in realizing purposes, to enable each child to teach himself for the most part in learning to read, and to allow each child to progress according to his ability and effort. In harmony with these aims, the picture-story lessons consist of "materials by which a child learns to read by engaging in an interesting activity, for which it is necessary that he follow printed directions." The activity chosen is the building of pictures. The reason advanced for this selection is that "it is reasonably safe to assume that in every child there exists an innate love for cutting, coloring, and pasting." Similar statements may be made, however, with regard to many other activities which are used as the basis of lessons in beginning reading. The additional fact should be emphasized that the content of the picture-story lessons was carefully selected from "within the experience of the average child." It is reasonable to assume that other activities based on equally interesting experiences and making as strong an appeal to the child would prove as successful.

The materials provided for the pupils include the following items: a lesson pad of "frames, cut-outs, and directions"; a dictionary which illustrates the words used in the directions in such a way that the pupils can readily discover for themselves the meanings of new words; a pad of stories which relate to the pictures with which the pupils work; a story-book cover in which the stories are filed as rapidly as a child is "able to earn them"; and a large envelope in which to keep the material. In addition, the teacher is supplied with a manual which contains carefully prepared directions for the teacher's use and a package of

[1] Stuart A. Courtis and Nila Banton Smith, *Picture-Story Reading Lessons*, Series I. Yonkers-on-Hudson, New York: World Book Co., 1924.

five sets of labels for the early lessons, which are held before the class to facilitate learning. In contrast with much of the material published for use in primary reading classes, the various parts of this series form a well-organized unit which can be used in practically any classroom. The authors point out, however, that the successful use of these lessons requires thorough familiarity on the part of the teacher with the fundamental aims that are to be realized and with the details of technique which are described at length in the manual.

Experimental evidence is presented by the authors in supporting their claim of the superiority of the picture-story lessons. This evidence was secured from a comparative study of the progress of experimental groups which used the picture-story lessons and of control groups which followed a "conventional method." At the end of twenty weeks the experimental groups showed marked superiority in the number of books read and in the scores on each of four reading and vocabulary tests. However, the results of this experiment cannot be interpreted as a specific measure of the efficiency of the picture-story lessons. During the first semester in which these lessons were used the pupils engaged in numerous other reading activities. For example, the manual prescribes incidental reading from labels and directions, from books at reading tables, and from bulletin boards. Teachers are urged to surround pupils with "a reading atmosphere" and to stimulate reading in connection with numerous classroom activities. As soon as a child has mastered a sufficient number of words to read simple passages independently, he is encouraged to read from primers and first readers. About the same time oral reading is introduced. Supplementary silent-reading exercises, such as distinguishing true and false statements, drawing pictures of stories, dramatizing stories, and following directions, are also provided. Furthermore, a library period for independent reading is organized as soon as the pupils are sufficiently advanced. These statements make it clear that techniques were used other than those which are connected with the use of the picture-story lessons. It is therefore impossible to determine whether the superior results attained by the experimental groups should be attributed primarily to the use of the picture-story lessons, to the supplementary methods and activities which were used, or to a combination of the two.

Many commendable features attach to the picture-story lessons. They were very carefully prepared. They have been modified repeatedly as a result of classroom experimentation. The activities on which they are based relate to interesting experiences. The interest and motives of the children are given large consideration. Provision is made for individual differences in capacity to learn. Pupils are trained to work individually, to keep a record of their own progress, and to appraise their own results. So far as reading is concerned, the attention of the pupils is directed primarily to the content, thus insuring emphasis on thoughtful interpretation. The lessons are supplemented from time to time by a rich variety of reading activities that result in rapid progress.

The theories underlying the method, as stated by Mr. Courtis in the Introduction to the manual, raise certain very pointed questions. For example, he

states that teachers should aim in the picture-story lessons to give pupils "experience in purposing" and should develop "power to purpose, letting the reading results take care of themselves." No exception is taken to the statement that right purposes must be cultivated. They are one of the valuable products of instruction. However, the assumption that results in reading will take care of themselves is open to serious criticism. One of the major contributions of scientific studies of reading during the last ten years is the development of a clearer realization that the progress of pupils in reading must be scrutinized with the greatest care in order to insure the development of right habits. If Mr. Courtis means that relatively less attention should be given to the mechanics of reading than has been given in the past and that more attention should be given to purposeful reading, we can agree most heartily. When he maintains, however, that ability to read, "that thing for which she [the teacher] did not work," comes "as a by-product," we are justified in challenging the validity of his contention. As a matter of fact, the manual which accompanies the picture-story lessons provides constant checks on the progress of the pupils, and continuous effort is made to insure the development of right habits.

Furthermore, Mr. Courtis maintains that "no one should attempt to use this material who does not accept the educational principles upon which it is based." If this be the ultimatum, it is unfortunate that the principles underlying the picture-story lessons should have been described in the terms which were used. There are many school officers and teachers who may not agree with the theories propounded but who might use these lessons to distinct advantage, either as a basis for teaching beginning reading or as supplementary material in developing habits of independent reading and study.

WILLIAM S. GRAY

The teaching of arithmetic.—One of the most important recent contributions to the literature on the teaching of arithmetic has been made by W. J. Osburn, of the State Department of Public Instruction of Wisconsin. The book[1] is primarily a report of the research which has been carried on under the author's direction, but it contains, in addition, several chapters on methods of teaching.

The contributions of the book are chiefly two. The first of these is made in chapter iii, in which Dr. Osburn discusses the relative value of subject matter. After citing the fact that errors in the fundamentals are exceedingly common, the author develops the thesis that the cause of these errors is the failure to teach all the specific number facts which are needed. The doctrine of formal discipline is vigorously criticized, and, in place of depending on the transfer of training from the minimum list of number combinations commonly used, the author would teach 1,680 number facts. These 1,680 number facts have been tabulated through a very careful and commendable analysis of the possible number combinations. In the Appendix these combinations are listed in two

[1] Worth J. Osburn, *Corrective Arithmetic.* Boston: Houghton Mifflin Co., 1924. Pp. x+182. $1.60.

groups, the first group containing the easier combinations and the second the more difficult combinations.

The second major contribution of the book is reported in chapter iv. This chapter is based on a study of errors both in the fundamentals and in reasoning problems. The errors in the fundamentals were tabulated from pupils' papers for the Theisen-Woody Parallel Arithmetic Tests. More than three thousand children contributed to this part of the study, and more than twenty thousand wrong answers were tabulated. For the analysis of errors in reasoning, papers for the Buckingham Scale for Problems in Arithmetic were used. These were collected from six thousand children, the total number of errors reported being thirty thousand. The study showed that errors are specific and are rather constant with regard to types, chance playing a smaller part than is commonly supposed. After the errors were tabulated, they were classified, and their causes were determined so far as it was possible to do so.

After presenting the tabulation of the 1,680 specific number facts needed by pupils and the tabulation of the specific errors which occur in pupils' test papers, the author develops a general technique of teaching arithmetic which is essentially diagnostic and remedial in character. After a very interesting presentation of this material, there follow two chapters dealing with "Principles of Method" and "Games and Devices."

As a whole, the book represents a valuable contribution to the field of arithmetic. One of the most commendable features is the fact that it is based on research and is not simply a restatement of time-worn theories of teaching arithmetic. The only chapter which resembles the latter type of treatment is the one on "Principles of Method," where, in many cases, the author frankly admits that there is little scientific evidence for the recommendations made.

The reviewer has two criticisms of the book to offer. The first of these relates to the suggestion that 1,680 specific number facts should be taught. He finds it difficult to swing from a theory of transfer to such an extreme of specific teaching. The present success in teaching one hundred number facts in addition and subtraction hardly warrants the belief that better results could be secured by increasing this number to 412 in the case of addition and 275 in the case of subtraction. The final answer as to whether 1,680 combinations can be successfully taught must, of course, be determined by trial. At the present time it should be observed that there is no more evidence that success will follow such a plan than that equal success might not be achieved by teaching the present number of combinations and at the same time emphasizing more specifically a knowledge of the systematic relationship of numbers for the purpose of facilitating transfer. In a city where the streets are numbered in one direction and lettered in the other, one does not need to visit every corner in order to learn how to find a given address. A little experience, together with a knowledge of the system of naming the streets, is sufficient. The situation seems much the same in teaching number combinations, and the question is, How much experience must be given before the child will be able to handle number combinations

not learned? To the reviewer, a total of 1,680 number combinations seems so large that he would like further evidence that it is necessary.

The second criticism relates to the method of diagnosing a pupil's work from the evidence of test papers. While, undoubtedly, there are many occasions when the answer to an example may indicate the cause of the error, the experience of the reviewer has shown him that there are likewise many cases where an inference from the answer as to the cause of the error would be entirely misleading. Although the large number of case analyses is impressive, there can be no substitute for a more specific and thorough analysis of the individual case. Any final system of diagnosis must consider both the results displayed on the test paper and the mental processes and methods employed by the pupil in securing the results. This means, of course, individual diagnosis and observation of the pupil while he works. Such diagnosis would undoubtedly lead to a more detailed classification than that given on page 38 of the book, where 30 per cent of the errors in reasoning problems are classified as "total failure to comprehend." Before adequate remedial work can be undertaken, the causes of these failures to comprehend must be discovered. The reviewer believes that the teacher of arithmetic would derive more help from one hundred individual diagnoses of a detailed sort than from thirty thousand diagnoses in which the specific cause of the error is, at best, *inferred* from the answer.

The book is well written; it presents interesting material; and it is worthy of careful reading by any teacher of arithmetic or student of education who has to deal with the subject of arithmetic.

G. T. BUSWELL

Mental growth as described by an English psychologist.—A book on educational psychology by an Englishman usually has characteristics which distinguish it rather sharply from a similar book by an American. Perhaps, if we avoid certain obvious misinterpretations, the difference may be best expressed by saying that the Englishman looks at his subject from the outside, while the American looks at it from the inside. Both the causes and the consequences of this difference are interesting, but we have space here only for the consequences.

One of the consequences is that a book by an English psychologist is likely to have a certain organic unity, symmetry, and completeness. It is written from a given point of view and carries this point of view through all the details of the treatment. It *uses* the data which are produced by scientific experiment, not merely reporting them. The author feels quite at liberty to select such data as contribute to the development of his theme and to neglect whatever does not. This means not that evidence is presented on only one side of an issue but that the issues themselves are primary and the collection of data secondary. Again, this point of view makes the English books particularly readable for the lay reader. The vocabulary is untechnical and the style more or less racy. At its best, this style of book combines genuine scientific merit with literary attractive-

ness, but the faults to which it is prone are superficiality and an unduly subjective approach to its problems.

Dr. Thomson, professor of education at Armstrong College, Newcastle-upon-Tyne, and visiting professor at Columbia University during the school year 1923–24, has produced what is indubitably a very readable book,[1] one which will prove stimulating to psychologists as well as to students of education. While the treatment is not superficial, it is rather sketchy. It "hits the high spots," to use an American expression. For example, "Transfer of Training" is dealt with in fifteen pages and "Intelligence Tests" in thirteen pages. The author has digested the evidence and gives the result in easily assimilable form, but he gives the reader comparatively little raw material which he himself is required to digest.

The author treats mental life genetically. He traces the development of the higher forms of thought, as represented in the use of language and other symbols, from its beginnings in instinctive behavior and simple trial-and-error learning. Likewise, he traces the growth of the control of conduct from the instincts through the process of sublimation. The various conventional topics, such as play, interest, learning, memorizing, individual differences, and transfer of training, are brought into the discussion, together with numerous applications to teaching. It is not always clear why the topics are treated in the order in which they appear, though the transition from topic to topic is easily made.

In short, the book is a rather brief treatment of the general aspects of educational psychology, clearly and interestingly written. It is adapted for use as an introductory text or as a book for the general reader.

FRANK N. FREEMAN

The moral education of adolescents.—A sane discussion of the moral problems of adolescent children is contained in a little book[2] written by George A. Coe. The author interprets the present tendencies of youth partly as a reflection of the present activities of adults and partly as an incident in the adjustment to a new social and industrial condition. For those who have been pessimistic with regard to the outlook for youth, the book has a note of encouragement; for those who have been indifferent to the problem, the book presents a challenge to serious thinking.

Professor Coe would not exempt from blame those adults who are criticizing youth. After an analysis of the social and industrial situation at the present time, he concludes that both adults and youth are suffering from "undigested opportunity." Education is at fault in not preparing children to meet the problems of modern living. The careful observer will find much truth in the following quotation:

> If, now, we were to grant the occupational presuppositions that prevail in the mature parts of society, we should have to conclude that our young people are not so ailing

[1] Godfrey H. Thomson, *Instinct, Intelligence, and Character: An Educational Psychology*. New York: Longmans, Green & Co., 1925. Pp. 282. $3.50.

[2] George A. Coe, *What Ails Our Youth?* New York: Charles Scribner's Sons, 1924. Pp. xiv+98. $1.25.

after all. For, on the whole, they live up to the rules of the game. They mean no particular harm to anybody; they are willing to exert themselves when they see enough in it for themselves (the very standard of business); money to have and to spend is their chief serious concern (just as it is with their elders); and as for their pleasures, why, these skittish young people proceed upon practically the same principles as their parents. The young, because they are more limber than their elders, can go farther and do more kinds of things; and because they are young they dare to carry their principles farther than cautious age; but let not the old blocks find too much fault with the chips! [Pp. 14–15]

If there is truth in the implication of the book that the remedy for whatever ails our youth must come from the school, it seems clear that much of this remedy must be applied in the pre-adolescent or early adolescent years. Evidently, the teachers in the elementary schools and the junior high schools have some definite obligation in the matter. Unless they themselves have been educated to see the problem in its proper light, their service will be small. In this respect, the education of the college is subject to critical evaluation. However, the immediate aspect of the problem relates to the preparing of children for such activities as will engage them during adolescence, and in this the earlier school period must assume full responsibility. Moral education cannot wait until the child is twelve years of age.

The book presents, in a stimulating manner, one of the major problems of education at all levels.

G. T. BUSWELL

Spelling texts.—Although there is a tendency on the part of some of our school systems—St. Louis and Chicago are examples—to substitute locally devised lists of words for the spelling book, there is no immediate prospect that the speller is scheduled for general retirement. A program of spelling instruction should, first of all, satisfy two fundamental requirements: (1) The word list should be scientifically selected, and (2) this list should be scientifically taught. It is extremely difficult to meet either of these requirements. Vocabulary investigations have become so numerous and the problems involved so complex that the services of competent specialists are necessary in order to satisfy the first requirement; and, after the word list is chosen, the teacher is in constant need of supervision based on research. If the makers of spelling texts can provide reliable vocabularies and bring to the teachers the fruits of instructional research, the demand for their books will continue, for local lists are often of questionable reliability and teachers as often in want of scientific guidance and supervision.

One of the recent additions to the list of available spelling texts is *The Jones Complete Course in Spelling*.[1] This is a revision of *The Jones Spelling Book*, which first appeared in 1913. The outstanding features of the older work are retained: (1) selection of words on the basis of childhood usage in written

[1] W. Franklin Jones, *The Jones Complete Course in Spelling*. Chicago: Hall & McCreary Co., 1924. Pp. xxii+228. $0.56.

discourse, (2) placement of words on the basis of frequency of use in the different grades, and (3) arrangement of reviews on the basis of the difficulty of words. All three of these features rest almost solely on a previous vocabulary study, the results of which were published under the title, *Concrete Investigations of the Material of English Spelling*. The new edition represents a higher degree of typographical excellence than the old and includes contextual drills and "silent-dictation" exercises not found in the earlier book. The suggestions to teachers on the use of the book have been noticeably amplified and improved.

The author of this text has represented for twelve years a point of view that is still holding its own against severe opposition. For a time it seemed that the proponents of a radical theory of social utility, those who desire to make adult usage the sole criterion in the selection of the spelling vocabulary, would gain the upper hand. Not so today. The pendulum is now swinging in the other direction. The usage of children is coming to be regarded as a safer criterion for the selection of the spelling vocabulary than the usage of adults, if choice must be made between the two.

Another text[1] that has just come from the press is an advanced book for Grades VII and VIII. It is an addition to the series of Merrill spellers published earlier. The outstanding merit of this book is the excellent motivation of the lessons. This is accomplished by giving the pupil suggestions, directions, and specific problems all along the way. The technique of motivation has been skilful enough to escape monotony. The authors have rightly stressed the importance of focalizing the attention of pupils on the difficult parts of words and have given the teacher assistance to this end in the organization of the lessons. They have also made helpful provision for the use of the pretest.

In certain other respects the merits of the book are not as clear. One is unable to determine, either from the statement of the authors or from that of the publishers, precisely how the vocabulary of the book has been derived. Again, while workers in the field of scientific method are praised by the authors for their discoveries, few of these discoveries emerge in the suggestions which are given for teachers. The suggestions offered are lacking in comprehensiveness and definiteness. Finally, learning to spell by the use of rules is given much emphasis throughout the text—a questionable practice, if one may judge from the results of investigations.

FREDERICK S. BREED

Child development in the preschool years.—A notable book[2] which deals with the psychology of early childhood has been written by Professor Gesell, the data being drawn chiefly from the Yale Psycho-Clinic. The author presents a detailed psychological outline of the development of normal children from birth

[1] Sterling Andrus Leonard and Edith A. Winship, *The New Merrill Speller*, Advanced Book. New York: Charles E. Merrill Co., 1925. Pp. x+134. $0.52.

[2] Arnold Gesell, *The Mental Growth of the Preschool Child*. New York: Macmillan Co., 1925. Pp. x+448.

to six years of age. The book gives both a general discussion of the problems of mental growth and a detailed description of the test materials used and the procedure followed in determining growth. The treatment of tests makes the volume an excellent handbook for the clinical worker.

The author has grouped his material into four divisions. Part I consists of a treatment of methodology and of the significance of the preschool age. Ten successive stages of growth are outlined and the criteria for the various stages explained. Part II describes the test materials and the technique used in the Yale clinic and gives a complete table of norms obtained from the children examined. The procedure for each test is described in detail, followed by comments regarding the significance of the test. This part provides a technique for the study of preschool children similar to the technique for the study of children of school age provided by Terman in his *Measurement of Intelligence*. Part III presents a comparative study of mental growth. Children of different ages are compared by pairing them and giving them the same tests simultaneously. Case descriptions are given for the tests of children paired at eight different ages, as, for example, four months versus six months. Growth changes which are gradual are in this way made to appear more striking. Part IV deals with practical applications in developmental diagnosis and supervision. Two chapters in this section, "Developmental Schedules" and "Normative Summaries," present most useful information. The author also discusses a number of topics relating to clinical procedure.

The scope of the material included in the book is broad; likewise is the point of view of the author, who brings to bear on his problem not only the facts and methods of psychology but also those of neurology, physiology, and medicine. The book is a worth-while contribution and marks a definite stage of progress in the study of young children.

G. T. BUSWELL

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